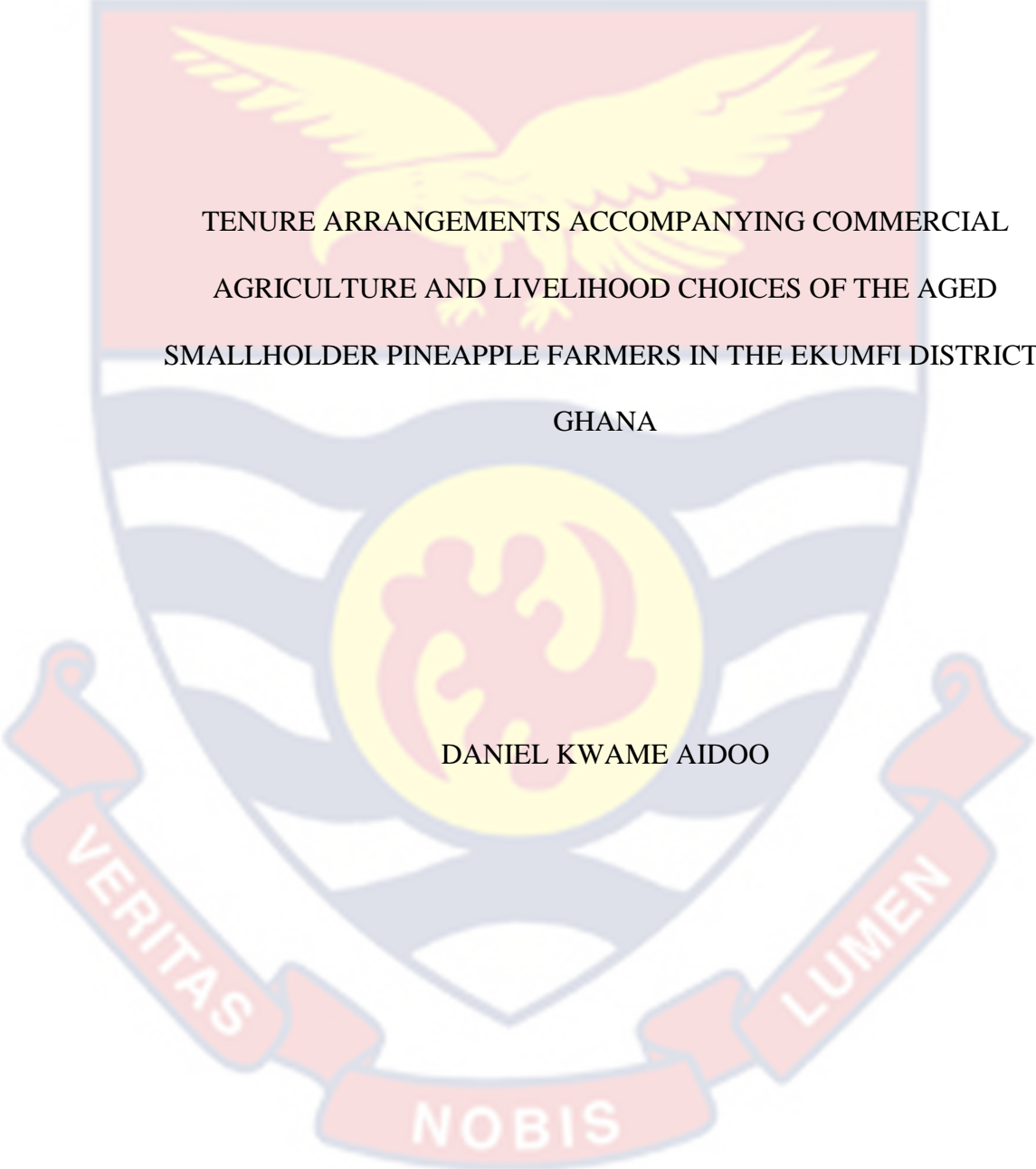


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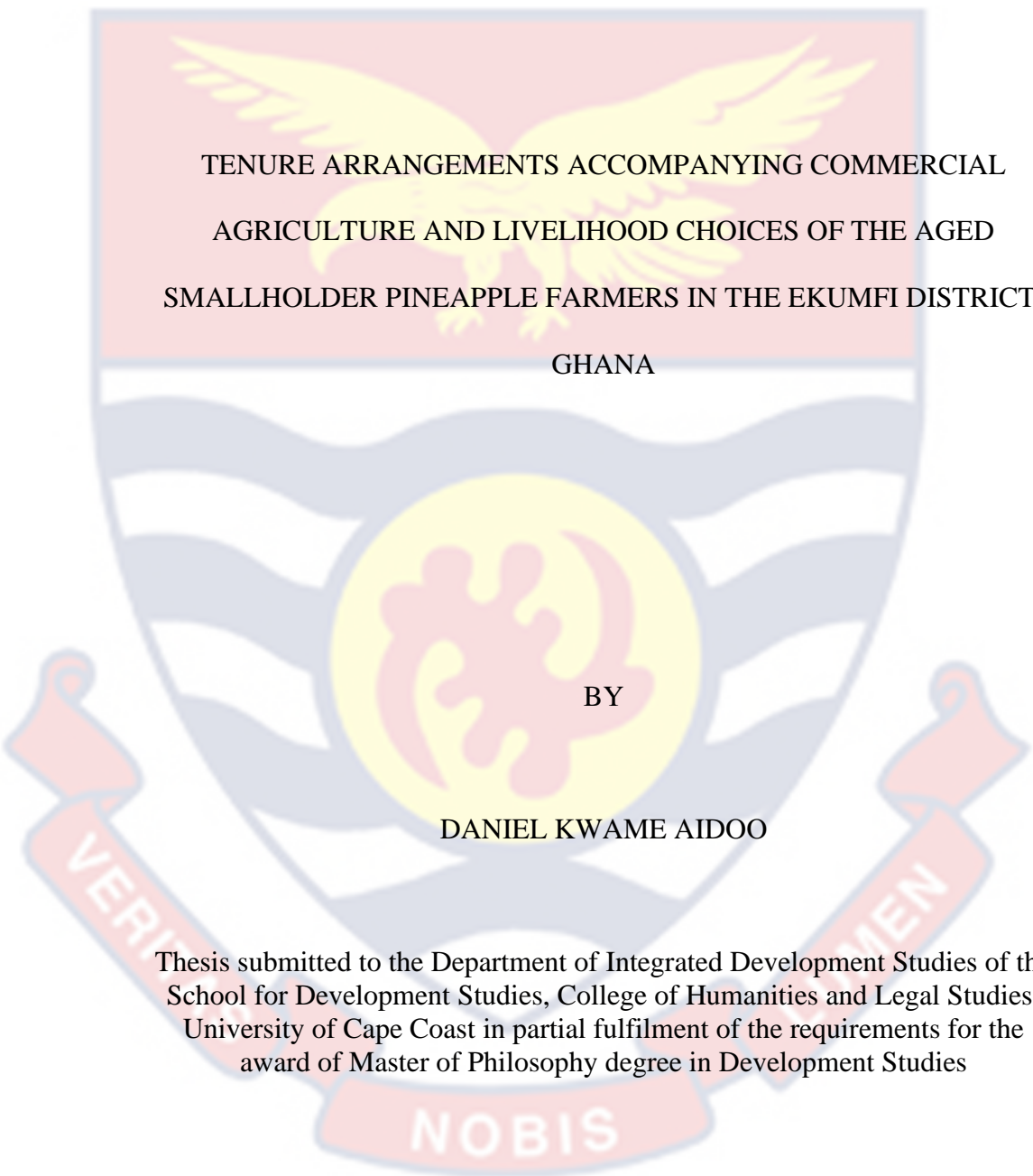


TENURE ARRANGEMENTS ACCOMPANYING COMMERCIAL
AGRICULTURE AND LIVELIHOOD CHOICES OF THE AGED
SMALLHOLDER PINEAPPLE FARMERS IN THE EKUMFI DISTRICT,
GHANA

DANIEL KWAME AIDOO

2023

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GHANA

BY

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Thesis submitted to the Department of Integrated Development Studies of the
School for Development Studies, College of Humanities and Legal Studies,
University of Cape Coast in partial fulfilment of the requirements for the
award of Master of Philosophy degree in Development Studies

AUGUST 2023

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Signature: Date:

Name: Daniel Kwame Aidoo

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature: Date:

Name: Professor Akua Opokua Britwum

ABSTRACT

The study explored how the aged smallholder farmers negotiate their livelihood choices without institutionalised social safety nets and waves of tenure forms accompanying commercial agricultural investment. The study used qualitative methods to gather data through semi-structured interviews and observations with smallholder pineapple farmers aged 60 years and above, leaders of land-holding groups, managers of pineapple producer groups and the district agricultural office over three weeks. Maximum variation and expert sampling techniques were used to select aged smallholder pineapple farmers and other agricultural players respectively, while snowball sampling was used to identify study participants from sample groups. In all, a total of 27 individual interviews were conducted. The study adopted the continuity theory and institutional theory as its theoretical underpinnings whilst thematic analysis approaches were employed in analysing the data. It was revealed that the aged smallholder farmers gain access to land for commercial agricultural purposes through direct access and lease agreements. The aged smallholder pineapple farmers engaged in non-farm and other crop diversification activities aside from pineapple cultivation. Commercial agriculture and its attendant tenure arrangements have adversely impacted the yield and trading volumes of other food crops and other off-farm activities such as firewood harvesting, charcoal making, and herbal medicine, but had improved rural wages and rental income from land and other assets. The study recommends that a comprehensive policy, like the recent cocoa farmers' pension scheme, should be streamlined to include all informal rural agricultural workers.

KEYWORDS

Aged Smallholder Farmers

Commercial Agriculture

Land Tenure Arrangements

Livelihood activities

Livelihood Choices

Livelihood Goals



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DEDICATION

To my lovely father Mr. Jacob Kofi Amamoo Aidoo of blessed memory



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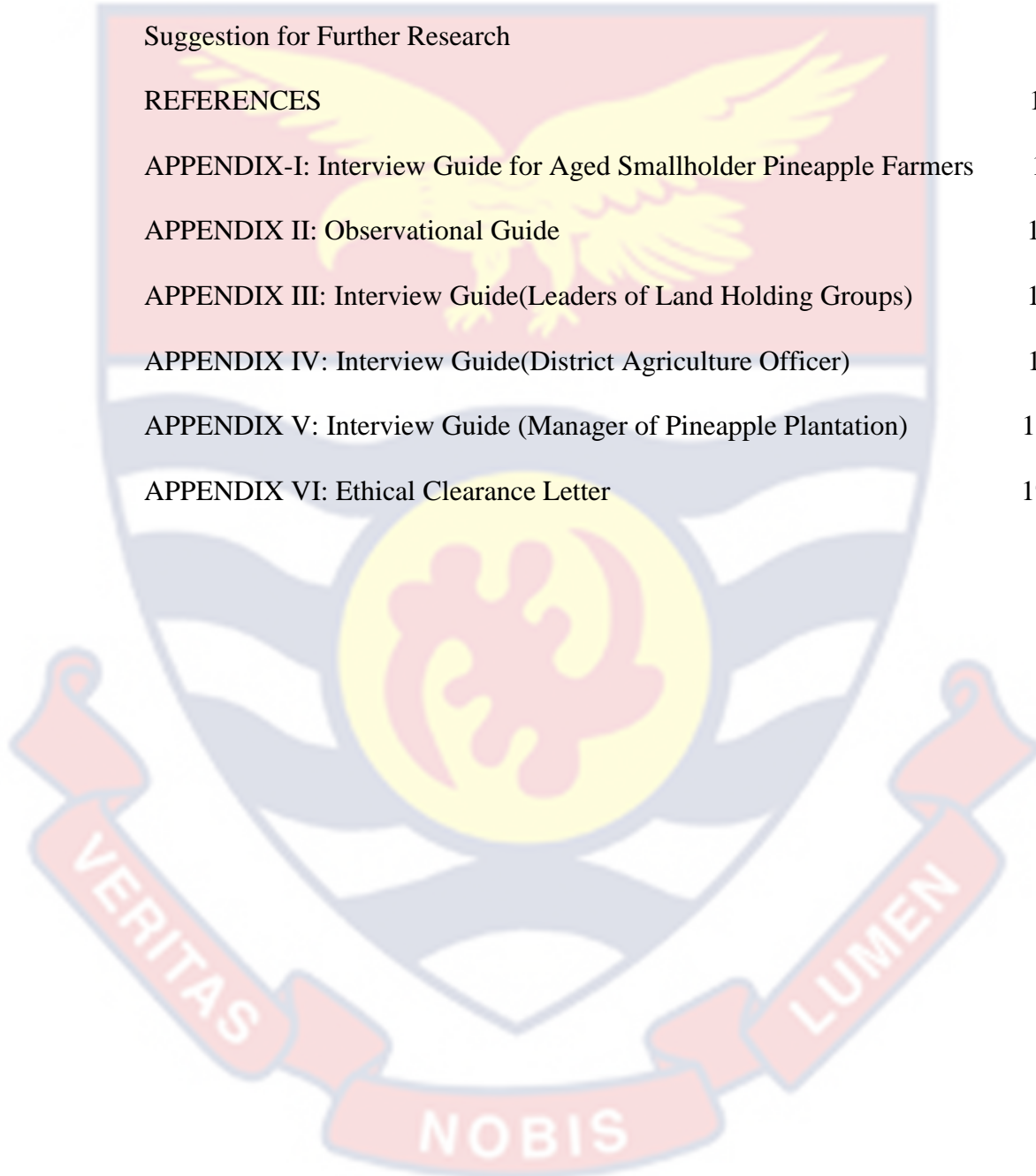
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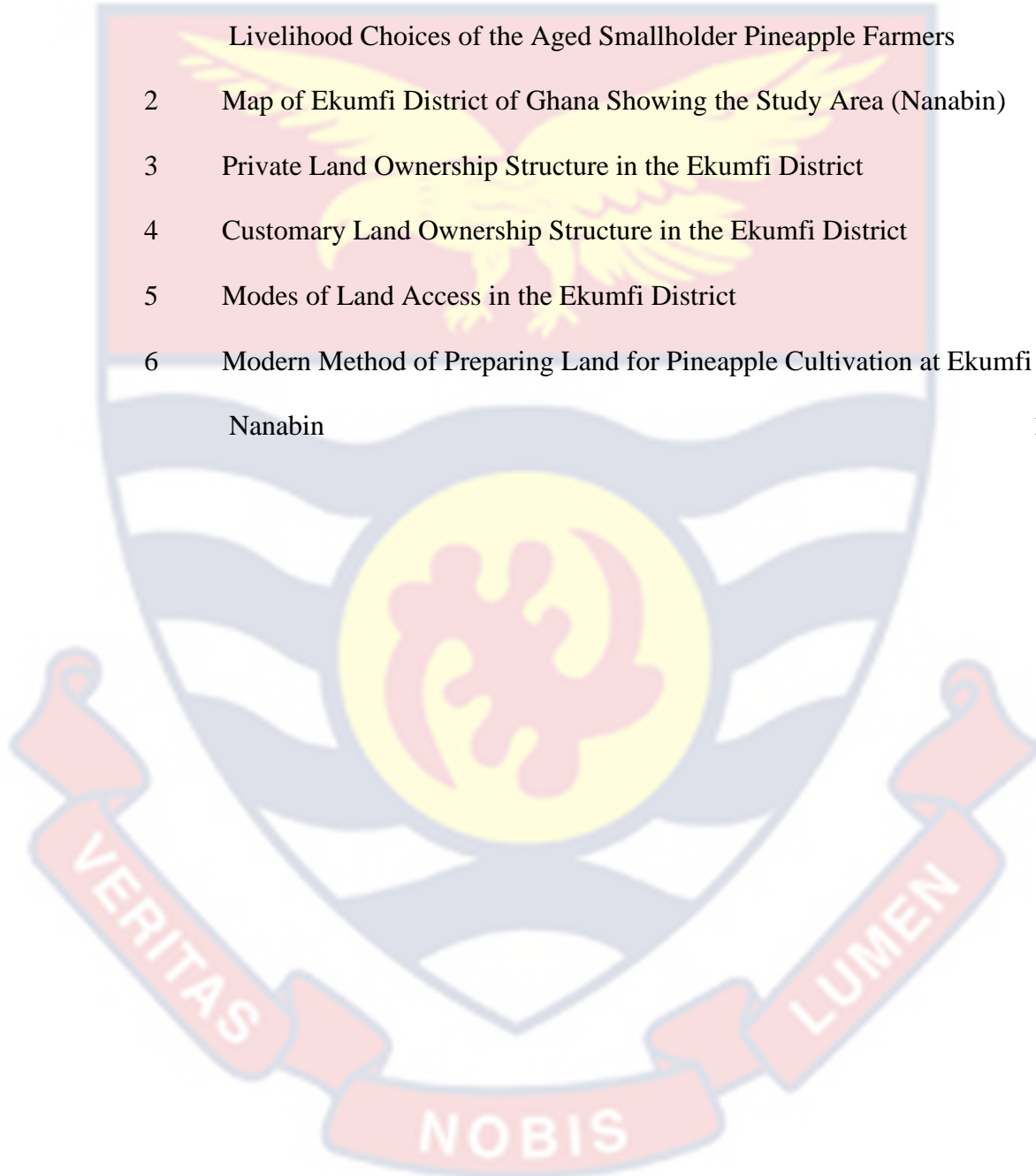


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LIST OF ACRONYMS

ACCOPPS	Adwendaho Organic Pineapple Producers and Suppliers
AMOPP	Adwumadzen ma Mpondu Organic Pineapple Producers Association
ASHPFs	Aged Smallholder Pineapple Farmers
CEDECOM	Central Regional Development Commission
CT	Continuity Theory
DAO	District Agriculture Officer
DFID	Department for International Development
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GSS	Ghana Statistical Service
IRB	Institutional Review Board
IT	Institutional Theory
LC	Land Commission
LEAP	Livelihood Empowerment Against Poverty
LLOGs	Leaders of Land-Owning Groups
MoFA	Ministry of Food and Agriculture
MPPs	Managers of Pineapple Producer Groups
NELM	New Economics of Labour Migration
NHIS	National Health Insurance Scheme
SDGs	Sustainable Development Goals

CHAPTER ONE

INTRODUCTION

Background to the Study

The wake of the global food price crisis of 2007 to 2008, surging commodity prices and the collapse of financial markets are among the factors underpinning the recent wave of commercial agricultural investment across developing countries (Matenga & Hichaambwa, 2017). Commercial agriculture is a complex term with varying definitions and emphases in extant literature. A more consented view describes commercial agriculture as the transition from subsistence production to an increasingly complex production and consumption system based on market engagement (Snoxell, 2018). Broadly, the term commercial agriculture connotes large-scale cultivation of crops (cash and food crops) and the rearing of livestock for sale and not for household consumption.

Smalley (2013) broadly classified commercial agriculture investment into three models namely; plantation farming, contract farming and commercial farming. Plantation farming grows one main cash crop and requires capital investment with vast land holdings, although some land may be left uncultivated. The plantation model relies on hired resident or non-resident labour, often including migrant labour; and is centrally owned and managed by a foreign or domestic, private or corporate body. With the contract farming model, farmers agree in a written or verbal contract to supply produce to a buyer, usually at a pre-determined price, on a specific date and standard quality (Smalley, 2013). The commercial farming model constitutes multiple private commercial farms of medium to large-

scale farms that are more or less contiguous in an area. The present study operationalises commercial agriculture as large-scale cultivation of crops (pineapple) primarily for sale and not for household consumption.

The relative benefits or otherwise regarding commercial agriculture remain completely unresolved among researchers, agriculture economists and development practitioners. Nkansah-Dwamena (2021) concurred that the realisation of the intended benefits or otherwise from commercial agriculture depends on the local political environment and the context where these investments are carried out. Jayne et al (2021) argue that commercial agriculture investment generates complex distributional effects that remain poorly understood with polarised narratives which need to be reconciled.

The advocates of commercial agriculture see it as a 'win-win' deal where investors secure land for production and host countries reap development benefits (Nkansah-Dwamena & Yoon, 2022). Salverda (2019) claims that commercial agriculture modernises agriculture and improves local livelihoods through capital injection and technology transfer. Commercial agriculture enhances the recipient country's gross domestic product (GDP), diversifies rural economies, and helps reduce poverty through employment, and a ready market for farm produce (Sulle, 2020). Commercial agriculture investment is seen as an indispensable pathway towards economic growth and development for most developing countries heavily dependent on the agricultural sector (Djokoto, 2012). Deininger and Byerlee (2011) cited in support of their findings in Uganda and Mozambique that commercial

agriculture created an opportunity for global market integration and improved infrastructure development in rural economies of developing countries.

Other scholars have argued that governments and investors ignore local populations' diverse land values and means of survival when negotiating commercial agriculture investment (Nkansah-Dwamena, 2021; Prügl, et al., 2021; Tafon & Saunders, 2019). Gironde and Golay (2015) have argued that commercial agriculture leads to loss of livelihoods through the displacement of smallholder farmers, the decline in income and food insecurity due to competition for land between investors and rural dwellers (Shete & Rutten, 2015; Breu et al., 2016; Atuoye et al., 2021; Aggrey et al., 2021). According to Mollett (2016), the competition for land has led to social upheaval and violence in some developing countries like Madagascar and Ethiopia due to weak land market institutions, heightened competition for land, and tenure insecurity.

The institutional structures and complex rules governing the ownership and use of land for commercial agriculture investment become imperative in the realisation of the benefits associated with these investments. These rules differ hugely across countries and communities. The systems of landholding evolve from particular socio-political, and economic circumstances, cultural norms and practices of people regarding land as a natural resource, its use, management and development (Ampadu, Onumah & Quaye, 2014). These rules and regulations emanate from the institutional frameworks (both statutory and customary), which influence the holding and appropriation of land and its resources for the socio-economic development of a country (Amanor, 2008).

In Ghana, land is vested in the State, however, land is predominantly regulated customarily by chiefs and clan heads rather than statutory laws (Ampadu, 2013). Customary land is accessed through several diverse mechanisms such as gifts, rent, purchase, inheritance, sharecropping and trusteeship among others (Anafo, 2011). The influence of these tenure forms accompanying commercial agriculture investment influences the livelihood choices of vulnerable groups such as women, the youth the aged and raises a philosophical issue of social justice and rights regarding basic means of survival (land) in rural settings. The central tenet of social justice rests on the ability of individuals to enjoy social and economic rights from their environment (Nkansah-Dwamena, 2021). Hence, the State has the responsibility to protect vulnerable groups against social and economic vulnerabilities such as the loss of agricultural land due to weak land market institutions (Hibbert, 2017).

The institutional theory argues that society must activate the legitimate institutional processes to provide guidelines to direct the behaviour of individuals and the State in an acceptable manner (Sidani & Thornbery 2013). The institutional theory suggests that social actions are taken when they gain legitimacy (Jan, Lu, & Chou, 2012). Legitimacy which relates self-interests of individuals and communities is the core element of the institutional theory (Sidani, & Thornberry, 2013). Therefore, individuals and public officials draw their legitimacy from the institutional environment in their livelihood construction activities (Pillay & Dorasamy, 2010).

With the high incidence of old age poverty, the livelihood conditions of the aged have not emerged as a public policy issue due to the conviction that social relations remain the strongholds of support for the aged (Agyemang, 2014). A livelihood choice entails the portfolio of economic activities undertaken by individuals within their capacity and capital to make a living (Ding et al., 2018). Yang et al (2018) argue that the adoption of a livelihood choice of a rural household is premised on assets such as the acreage of land available to the smallholder at a given point in time. The ultimate goal of employing any livelihood choice is to ensure individuals' economic and social security. The emergence of commercial agriculture and its accompanying tenure forms compel the rural vulnerable to adopt certain choices to sustain their livelihood and alleviate poverty (Ruml et al., 2022).

According to Scoones (2003), there are three broad clusters of livelihood choices opened to rural dwellers; thus, agriculture intensification/extensification, livelihood diversification, and migration. One gains more from an agrarian livelihood through processes of intensification or extensification. Individuals diversify into a range of both on-farm and off-farm income-earning activities and, lastly, one may move away and seek a livelihood, either temporarily or permanently, elsewhere, through migration. However, Chirau et al (2014) argued that contemporary livelihood choices are not only located within natural resources and agrarian activities but also constitute informality, civil society donations, social reciprocity, pensions and remittances from close relations and the state. Yet, the timeliness and reliability of these income sources are predicated on the prevailing economic conditions (Mabisa, 2013).

Heterogeneity in old age means that while some older people are amongst the most vulnerable socially disadvantaged and incapable, others might have accumulated resources that enable them to pursue numerous and enterprising livelihood choices to maintain their well-being in old age. As most of the economic activities in the rural communities are not formalised and access to institutionalised social safety net is non-existent, livelihood diversification becomes the last option for sustaining the livelihood of the rural vulnerable, particularly the aged smallholder farmers (Jayne et. al., 2021). The aged smallholder farmers in rural communities are then compelled to perpetually and actively engage in livelihood construction activity to starve off old-age poverty (Agyemang, 2014).

The transformative concerns of rural development and the resultant influence of commercial agriculture on the livelihood of smallholder farmers have inspired the incorporation of sustainable rural development in the Sustainable Development Goals (SDGs) which drives the global development agenda (Garrett & Ruel, 2018). The United Nations (2016) indicated that sustainable communities have the potential to reduce poverty and inequality, create employment, and ensure food security among others. The realisation of these benefits hinges on sustainable production and consumption which is premised on access to and control over land. However, tenure forms accompanying commercial agricultural investment across the globe tend to impede the efforts toward achieving SDG 1, target 1.4.2 of ensuring equal access and control over land (Haller, 2019). Chome (2020) argue that a proper negotiation of commercial agriculture investments usually offers win-

win benefits to the smallholders and helps starve off rural poverty as SDG 1 stipulates.

The Ekumfi district is a leading pineapple producer in Ghana and the first out of the twenty-two administrative districts in the Central region of Ghana (MoFA, 2015). Mass cultivation of pineapple in the district intensified when a jointly sponsored project by the Japanese government and the Central Regional Development Commission, (CEDECOM) was initiated in the year 2013, to reduce poverty and socioeconomic vulnerabilities that confront smallholder farmers in the district (MoFA, 2015). Yet, the Ekumfi district ranks as one of the poorest districts in the Central region with a poverty headcount of 48.4 per cent compared with the regional average of 19.6 per cent (GSS, 2021).

While the mass pineapple cultivation following the establishment of the Ekumfi fruits and juices factory in the district is crucial to Ghana's economic development. The livelihood choices that the aged smallholder farmers are compelled to make amid commercial agricultural investment and its attendant tenure forms need to be looked at in the absence of an institutionalised social safety net and diminishing family support systems. The study raises the question of how the tenure forms accompanying commercial agriculture influence the livelihood choices of the aged smallholder pineapple farmers and how these choices enable them to realise their livelihood goals or otherwise. It is this curiosity that inspires this thesis.

Problem Statement

The global population is undergoing a demographic transition with more people now living beyond sixty years in waned living standards due to reduced economic prospects and deteriorated health conditions (Braithwaite & Rosenberg, 2021). As of 2021, about 4.44 per cent (1.37 million) of Ghana's population of 30.832,019 million had aged 60 years and over with about (25.7%) living in multidimensional poverty (Ghana Statistical Service, 2021). This demographic shift witnessed in Ghana has disordered some of the inherent support designed to improve living standards and ensure adequate protection against old-age vulnerabilities (Agyemang, 2014). The livelihood conditions of the aged in Ghana have been worsened due to changing family structure, the breakdown of the social welfare system and the economic downturns.

Heedless of the substantial contribution of the aged to their families, community, and the state, the aged are usually viewed as a drain on resources and left to live in conditions of threatened poverty (Murphy, 2011). Amid the high incidence of old age poverty, the livelihood conditions of the aged have not emerged as a public policy issue, due to the conviction that social relations remain the strongholds of support for the aged (Agyemang, 2014). However, the absence of an institutionalised social safety net has left the aged rural smallholder farmers with no option to retire from agrarian livelihood activities, but to perpetually engage in economic activities to enable them to make a living and stave off old age poverty as pointed out by the continuity theory (Atchley, 1971).

The widespread commercial agriculture investment in farmland across developing countries and the potential for negative effects on local smallholder farmers have generated much debate about the relative merit of small versus large farms and their implications for smallholder land rights and tenure security. Tenure forms accompanying commercial agriculture investment resonate with keen concerns about inequalities in land ownership, reduced land size, marginalisation of the aged smallholder farmers and deprivation of their means of livelihood (Ortiz-Miranda, et. al., 2021). For the reason that the available land which plays a critical role in the livelihood construction activities of the aged smallholder farmers becomes the most sought-after commodity by various agrarian players due to weak land market institutions and widespread opportunities for economic gain as indicated by the institutional theory (Jayne et al., 2021).

Debates surrounding the benefits or otherwise of commercial agriculture remain unresolved, there is evidence that suggests positive direct gains for participating smallholder farmers (Hajjar et al., 2020; Salverda, 2019; Baumgartner et al., 2015; Deininger & Byerlee, 2011). Others Nkansah-Dwamena, (2021); Prügl, et al (2021); Aggrey, (2014); De Zoysa, (2013); and Schoneveld, et al (2011) established that commercial agricultural investment imposes negative repercussions on smallholder farmers. Further evidence suggests a two-fold effect on the livelihood of rural dwellers (Quansah et al., 2020; Nguyen, et al., 2019; Nkansah-Dwamena, 2017; Aabø & Kring, 2012). Smalley (2013) remained uncertain regarding the magnitude of the effect of commercial agriculture on the livelihoods of smallholders and the rural economy at large.

Empirical revelations discussed so far, are context-specific and lack agreement on the merits or otherwise of commercial agriculture that can be subjected to generalisation across other jurisdictions. Raising questions about which claim should be accepted in the case of Ekumfi Nanabin. Much attention has been on how commercial agriculture affects the livelihoods of rural households in terms of employment generation, food security and rural-urban economic linkages among others (Djokoto, 2012). While the emergence of commercial agriculture and its attendant tenurial forms tends to reduce land holdings with the invasion of other agrarian players, its influence on the livelihood choices of the aged smallholder farmers in Ekumfi Nanabin needs to be looked at. Given the disintegrated nature of the social support system coupled with the absence of an institutionalised social safety net to address the diverse social problems of the rural aged, a lot of questions remain unanswered regarding how the aged smallholder farmers make livelihood choices in the wave of changing tenure forms and reduced land holdings following commercial agricultural investment.

Purpose of the Study

Generally, the study explored how tenure arrangements accompanying commercial agriculture influences the livelihood choices of aged smallholder pineapple farmers in the Ekumfi district, Ghana.

Specific Research Objectives

In addressing the overall purpose of the study, the ensuing research objectives were pursued. Specifically, to:

1. Outline the tenurial arrangements regarding the use of land for commercial agriculture.
2. Describe the livelihood activities undertaken by the aged smallholder pineapple farmers.
3. Discuss the livelihood goals of the aged smallholder pineapple farmers
4. Analyse the influence of the tenurial arrangements on the livelihood choices of the aged smallholder farmers.

Research Questions

Based on the preceding specific objectives, these research questions were put forth to guide the study.

1. What tenurial arrangements surround the use of land for commercial agriculture?
2. What livelihood activities are undertaken by the aged smallholder pineapple farmers?
3. What are the livelihood goals of the aged smallholder pineapple farmer?
4. How does the tenurial arrangements influence the livelihood choices of the aged smallholder pineapple farmers?

Significance of the Study

The findings of the study will aid in the interrogation of the diverse theoretical submissions regarding the aged and their livelihood conditions. The economic imperativeness for the aged to discontinue or engage in livelihood construction activities as claimed by some sociological theories (disengagement

theory, activity, continuity theory will be brought to bear. The livelihood activities of the aged smallholder farmers would be made known to enable the Government to implement any supplementary social supports to cushion the aged smallholder farmers against poverty and protect them from the negative impact of commercial agriculture activities.

Secondly, heterogeneity in old age and associated vulnerabilities will be brought to bear for swift policy intervention such as the design of national ageing policy to cater for the numerous needs of the aged. The study will provide a vital contextual picture of large-scale pineapple cultivation in the Ekumfi district by explicating the influence of commercial agriculture from the perspective of the aged who in the absence of a social safety net relied on available land as a traditional form of social security in their agrarian livelihood construction activities. The findings may point to patterns and dynamics in ageing in contemporary rural settings that may be subjected to a further and wider national study to enhance the empirical base of the phenomenon

Thirdly, land-owning groups such as Chiefs, and Clan heads among others can also rely on the revelations of this study to make an informed decision regarding subsequent commercial land deals in the Nanabin community. Issues of land hunger arising from unfair appropriation and lack of access to land will be brought to bear to inform equitable land policies or reforms that benefit the rural vulnerable (aged smallholder farmers). This will enable land-holding groups (social actors) in rural communities to develop mutually beneficial policies to regulate land access and

sustain the livelihoods of rural-aged farmers and other users who depend on land for their livelihood.

Finally, the limitations of the study will serve as research gaps that can be explored by future researchers to better build the scope and the dearth of information on how tenure forms accompanying commercial agriculture influence livelihood choices and the realisation of the livelihood goals of the aged smallholder farmers. Hence, contributes to the general discourse about the relative benefit or otherwise of commercial agriculture to rural dwellers

Delimitations of the Study

The study explored how tenure forms accompanying commercial agriculture influence livelihood choices and the realisation of the livelihood goals of the aged smallholder pineapple farmers in the Ekumfi district. For conceptual clarity, commercial agriculture was delimited to large-scale cultivation of cash crops (pineapple) for sale other than household consumption. Concerning the various modes in which land can be accessed for commercial agriculture, the study used the tenure forms (sharecropping, gift, inheritance, lease, purchase, rent, sharecropping, and trusteeship) identified by (Anaafo, 2011).

Livelihood choices of the aged were operationalised as the combination or portfolio of activities with which the aged smallholder pineapple farmers decide to undertake to achieve their livelihood goals in the rural setting. The study adopted portfolio livelihood activities proposed by (Scoones, 2003), except migration, because the target participants chosen had opted for agrarian livelihood diversification as their survival strategy. Again, out of the numerous research

methodologies, the study adopted a qualitative approach to explore the views, meanings, opinions and reasoning behind how commercial agriculture and its attendant tenure forms shape the livelihood choices of the aged smallholder farmers in the Ekumfi district.

Geographically, the study gathered evidence from the aged smallholder pineapple farmers only out of the entire rural population of Ekumfi Nanabin in the Ekumfi district of Ghana. For that matter generalisation of findings across other regions would be limited, particularly because the nature of the tenurial arrangement, livelihood construction activities, and standard of living are entirely not comparable across Ghana. Rather the findings of the study can be placed in the relevant context of aged smallholder farmers across other jurisdictions.

Limitation of the Study

Some challenges were encountered in the conduct of this study. The study focused on a section of the rural population; hence caution should be applied in attributing the findings to the general rural population because of the geographical and social context within which the study was carried out. Again, difficulties were encountered in ascertaining the actual ages of participants. To determine the correct ages of participants, significant historical events such as Independence Day, and the first earthquake in Ghana were used as proxies to accept the ages given by participants. Regardless of the aforementioned limitations, the use of the qualitative approach as a methodological lens offered the entryway to capture the lived experiences, meanings, opinions and reasoning regarding how tenure arrangements accompanying commercial agriculture influence the livelihood

choices of aged smallholder pineapple farmers.

Operational Definition of Study Variables

For this study, these concepts were adopted and operationalised as it ensues;

- **Aged Smallholder Farmers**

Aged smallholder farmers was used to mean both male and female smallholder pineapple farmers aged sixty (60) years and over who cultivate not less than two (2) acres of pineapple farm (Ghana Statistical Service, 2021).

- **Commercial Agriculture**

Commercial agriculture refers to the large-scale cultivation of crops (pineapple) primarily for sale and not for household consumption.

- **Land Tenure**

Land tenure forms describe the series of arrangements between landholding groups and farmers regarding the use and allocation of land for commercial agriculture (pineapple cultivation) and other livelihood activities.

- **Livelihood Activity**

Livelihood relates to the undertakings, assets and capabilities or a combination of these that the aged smallholder farmers pursue to make a living

- **Livelihood Choices**

Livelihood choices refer to the combination of activities that aged smallholder pineapple farmers adopt to achieve their livelihood goals.

- **Livelihood Goals**

Livelihood goals are the desired state of living that the aged smallholder farmers strive to achieve or maintain from their livelihood activities.

Organisation of the Study

This thesis was arranged into five separate but chained chapters. The first chapter introduced the background to the study, problem statement, purpose of the study, research objectives, and corresponding questions. The chapter further explained the operational concepts employed to put the study in context. The second chapter reviewed relevant and related literature on commercial agriculture and livelihood choices of aged smallholder farmers. The second chapter was further disaggregated into four main sections namely; theoretical framework, conceptual issues, empirical review, and conceptual framework. The review started with a critical overview of the underpinning theories about the concepts employed in the study.

The empirical review section elaborated on the relevant studies that have been conducted around the chosen commercial agriculture and livelihood choices. This was done to provide a deeper and better appreciation of the unexplored gaps and appropriate methodological approach to adopt from the study. A conceptual framework depicting how tenure forms accompanying commercial agriculture influence the livelihood choices of the aged smallholder farmers was developed to establish the connection between the study variables and aid the analysis of empirical data gathered. The third chapter elaborates on the methodology employed for the study.

The chapter captured issues regarding the research design, data sources, target population, sample size and sampling procedures, instruments used in collecting data, and methods of data analysis. The chapter further discusses the ethical considerations that guided the study. The Fourth chapter discusses and analyses the data gathered from the field for each objective. Lastly, the fifth chapter presents the summary, conclusions, and recommendations for the study and offers suggestions for further research based on the conclusion and the limitations of the study.

Chapter Summary

The introductory chapter of this study offered a detailed discussion of the background of the study, followed by the problem statement and the rationale that necessitated the conduct of the study. Research objectives and their corresponding research questions guiding the study were crafted. A gap analysis was carried out to support both the background arguments and the statement of the problem. An elaboration of what the study seeks to offer the varied stakeholder community was adequately discussed. The delimitation, as well as the limitation of the study, were pointed out. The chapter also provided operational definitions of some of the concepts to aid the understanding and contextualization. The chapter then concludes with the structure of how the respective succeeding chapters of the study were organized.

CHAPTER TWO

LITERATURE REVIEW

Introduction

A review of literature entails logical documentation, assessment, and interpretation of prior research on a subject of specific interest (Marshal, 2010). A review literature offers synthesized knowledge on a given research theme of interest (Baker, 2016). This proposes that a literature review is an essential prerequisite for any useful research enterprise. The literature review for this study was divided into four main sections namely; theoretical framework, conceptual issues, empirical review, and conceptual framework. The review starts with a broad overview of the theoretical framework and conceptual issues that underprop the study, while the next section presents a review of the empirical works relevant to the subject matter of the present study.

Theoretical Overview

The aged livelihood has been explained from several theoretical perspectives such as the disengagement, activity, and continuity theories since no single theory seems adequate in explicating how rural aged negotiate and construct their livelihood activities amid commercial agriculture and its attendant tenure arrangements. For instance, the disengagement theory maintains that the rural aged should desist from active livelihood activities to make way for the youth to engross in livelihood construction activities. However, disengagement from agrarian livelihoods works in countries where there is a formal social safety net provision

for the aged. The activity theory contests the position of the disengagement theory and argues that, for the aged smallholder farmers to have a better and improved standard of living, active engagement in different livelihood activities becomes important.

The present study was guided by the continuity theory (CT) and the institutional theory (IT). The livelihood construction activities of the rural aged are explained by the continuity theory, while the institutional theory aided in unpacking issues surrounding how the rural-aged smallholder farmers access productive resources (farmland) for their agrarian livelihood and other activities. The two theories used here, therefore, turn to complement each other in exploring the tenure arrangement surrounding the use of land for commercial agriculture, the livelihood activities pursued by aged smallholder farmers, their livelihood goals and the influence of tenure arrangements on the livelihood choices of the aged smallholder farmers in the Ekumfi district.

Continuity Theory

The continuity theory as a modification of the activity theory was propounded by Robert Atchley in the year (1971). The theory maintains that older people should continue to be active and resist the limitations brought about by ageing as long as possible. This is because society has been a limiting factor for the aged by applying different norms to the aged than to the middle-aged (Muruviwa, 2011). Active engagement of the aged in diverse livelihood activities in society ensures that the aged live more sustained and improved livelihood conditions even in the absence of a formal social security system (Muruviwa, 2011).

Disengagement from livelihood construction activities makes the aged redundant and dependent on external supports which are tangled by the prospects of the prevailing economic conditions.

This assertion corroborates the neoliberal stands which see the aged as a burden on the government expenditure through the disbursement of pensions and grants and therefore should be allowed to fend for themselves in the open market economy (Agyemang, 2014). The continuity theory argues that activity is preferable to inactivity because it improves the well-being of the aged on multiple levels. The aged must have a better and improved standard of living by undertaking different livelihood activities (Havighurst, 1968). The agrarian livelihood activities are central to the life course of the aged smallholder farmers and should still be carried on in later life regardless of the reduced physical capacity. From the continuity theory perspective, the patterns of behaviour, traditions, and beliefs that were practised by smallholder farmers in the rural setting will continue even as one reaches later life stages.

In agrarian communities, retirement, as done for persons in waged employment, has never been the case. The land has been central to the survival of the aged since peasant farming has no set retirement age like in the formal sector. In this case, past coping strategies employed by aged smallholder farmers continue as they grapple with the challenges of ageing and the quest to make a living (Muruviwa, Nekhwevha & Ige, 2013). The issues of continual engagement of the rural aged in agrarian livelihood activities vary across developing and developed

countries where there are social safety nets in place for the aged (Muruviwa, 2011; Muruviwa et al., 2013).

Traditionally, in most developing countries social security has been built into production in the subsistence economy. So, the land-to-farm is a critical social safety net that sustains the survival of the aged in rural settings. With the inadequacy of rural livelihood in yielding the desired satisfaction for the rural dwellers, it is expected that commercial agriculture provides a ready market for agricultural products and helps secure the livelihoods of the rural communities where commercial farmers are located (Muruviwa, 2011). In such a situation most aged smallholder farmers are compelled to continue with different livelihood activities, both on-farm and off-farm livelihood activities to fend for themselves (Muruviwa, Nekhwevha & Ige, 2013).

Ghana, like any other developing nation, does not have formal social security for the rural-aged smallholder farmers whose livelihoods are purely agrarian. This makes the aged smallholder farmers glued to the agrarian livelihood which is premised on access to and control over farmland. However, the emergence of commercial agriculture welcomes several players and interest groups with diverse interests in the available land. This phenomenon reduces the available land size, alters the existing land tenure forms in and around the recipient community, and influences the livelihood choices of the smallholder farmers particularly the aged whose livelihood strategies are limited (Muruviwa, 2011).

Aside from the theory's inability to explain how aged livelihood choices change with the emergence of commercial agriculture and its attendant tenure

arrangements. The continuity theory has been criticised for stating that aged smallholder farmers maintain their middle-age agrarian lifestyle due to functional limitation, lack of capital, and diminished desire to undertake agrarian livelihood activities. Some researchers like Agyemang (2014) show that aged smallholder farmers in their quest to engage in profitable agrarian livelihood face financial difficulties due to reduced physical capability and stigmatisation from the community. The health of the aged smallholder farmers becomes an important factor in determining their continued engagement in agrarian livelihood activities. Therefore, the foregoing drawbacks regarding the continuity theory must be addressed. Addressing the inadequacies associated with the continuity theory, the study relied on the institutional theory as a complementary theory to explain how changing land tenure forms accompanying commercial agriculture influence the livelihood choices of aged smallholder farmers.

Institutional Theory

The institutional theory is credited to the writings of John Meyer and Brian Rowan in the year 1970. The central claim of the institutional theory is that institutions influence the beliefs, attitudes, and behaviours of social actors (Jan et al., 2012). According to Hrelja et al (2017), institutions constitute the constraints that are devised by communities to regulate the structure of political, economic, and social interaction. Thus, institutions influence the pattern of attitudes and behaviours of social actors and provide stability and order in society (Jan et al., 2012). Hrelja et al. (2017) distinguished between formal and informal institutions. Formal institutions are governance processes that are established in law, while

informal institutions relate to governance processes that are not founded in law (Hrelja et al., 2017). The institutional theory is premised on the assumption that institutional arrangements or processes reflect a pattern of cultural factors that evolve and become legitimized within a society (Pillay & Dorasamy, 2010).

Scott (1987; 2004) argues that institutional processes gain legitimacy, become authoritative guidelines for social behaviours, and are accepted by individuals as a social reality. Because of this, Jan et al. (2012) suggest that social action is taken on an issue when it gains legitimacy in society. Sidani and Thornberry (2013) explain that legitimacy which relates to the self-interests of individuals and communities is the core element of the institutional theory. Pillay and Dorasamy (2010), therefore, insist that private individuals and public officials derive their legitimacy from the institutional environment.

Patterns of social interactions which are manifested in rules and shared beliefs shape how social actors such as individuals, families, communities, and state institutions operate within a social system (Hrelja et al., 2017). However, Sidani and Thornberry (2013) had earlier warned that state institutions may become arbitrary and lack the legal basis for the enforcement of laws and regulations to contain undesirable phenomena such as alteration of the land tenure system following commercial agriculture. Given this, the institutional theory provides the theoretical basis for the analysis of land ownership and management as well as poor regulation of commercial agriculture.

In Ghana, customary practices dictate land ownership and management. The land is, therefore, vested in land-holding groups such as families, clans, stool,

and skin (Abdulai, & Ndekugri, 2007). These customary bodies constitute the customary landholding institutions in Ghana and control more than 78 per cent of the total land area, while the rest are vested in the state through compulsory acquisition (Kuusaana Kidido, & Halidu-Adam, 2013). These families, skins/stools are believed to be equipped with the administrative capacity to manage the land (Kaunza-Nu-Dem et al, 2016). Korah et al (2017), however, argue that this landownership arrangement makes it difficult for state institutions to govern land access and use leading to unregulated land deals in Ghana. The succeeding section elaborates on the concepts such as commercial agriculture, tenure forms, and livelihood choices that emerged from the theoretical review.

Conceptual Review

This section of the study presents the mapping of the conceptual territory that encloses the study. The concepts include; commercial agriculture, livelihood, livelihood choices, aged smallholder farmers, land tenure system and arrangements. These concepts were reviewed because they formed the conceptualisation of the research problem and the study objectives. These concepts also provide the blueprint for the operationalisation of the key study variables such as commercial agriculture, livelihood choices, and tenure arrangements in the research project and therefore, there is the need to demarcate their boundaries and what they entail in the present study. Also, the delineation of the conceptual boundaries offered a comprehensive understanding of the complexities of the subject matter of the present study. It can be inferred that conceptual revision enables the researcher to figure out and pay attention to the relevant issues and

attempt to identify and specify how concepts are measured in the study for easy comprehension by readers.

Tenurial Arrangements

According to Akugre et al (2021), land tenure arrangements are social structures that encompass complex rules governing the ownership and use of land. These rules differ hugely across societies and communities. The tenure system outlines how land ownership is secured (Bruce, 2012). Tenurial arrangements are the system of landholding, which has evolved dynamically and complexly from the peculiar socio-political and economic circumstances, cultural norms and religious practices of a people regarding land as a natural resource, its use, management and development (Ampadu, Onumah & Quaye, 2014). Implicit in this definition are the rules, regulations and institutional frameworks (both statutory and customary), that influence the holding and appropriation of land and its resources for socioeconomic development (Amanor, 2008).

The system of rules and institutions that govern the access, use and control of land resources are actors such as landowners, tenants, customary authorities, government agencies, civil society organisations, private sector entities and others who have a direct or indirect stake in the land tenure system (Adjei-Poku Afrane & Inkoom, 2023). Land tenure players have different interests, rights and responsibilities related to land, and they interact with each other through various formal and informal mechanisms (Ampadu, Onumah & Quaye, 2014). Understanding the roles, perspectives and power dynamics of land tenure players is essential for designing and implementing effective land policies and

interventions that promote inclusive access to land for livelihood construction activities (Fadeeva & Soliev, 2020).

Legally, all land in Ghana is vested in the state, however, lands are managed and allocated by the traditional or customary leaders such as the chief, clan heads, and family or household heads among others according to the legal framework of Ghana (Land Act 2020, Act 1036). Statistics indicate that customary land constitutes about 78 per cent of the total land size of Ghana while the remaining 22 per cent is controlled and managed by the state of Ghana (Adjei-Poku Afrane & Inkoom, 2023). The 22 per cent denotes that 20 per cent out rightly owned by the state managed and controlled under statutory laws of the country and the remaining two per cent is held in a dual relationship between state and community (Ampadu, 2012). The state has the power to appropriate land anywhere in the country for development purposes; however, adequate compensation has to be paid to the traditional owners (Ampadu, 2013; Britwum et al., 2014).

Although Ghana operates a pluralistic land tenure and management system, there are generally two main forms of land administration in the country, each governed by a different form of rules and laws enacted by the governing authorities (Ampadu, Onumah & Quaye, 2014). These systems of land governance within the national land administration system have coexisted since the days of colonization of Ghana till date, yet the rules governing access and right to land vary under each regime (Anafo, 2011). According to Amanor (2008), these tenure regimes may differ from one community to another. Therefore, in the analyses of land tenure

discourses are usually premised on the locality of people or even the crop under consideration.

With the vested tenure arrangement, the state takes over the management responsibility for the land while the customary owners retain the ownership of the land. Through a state fiat, the government of Ghana is permitted to compulsorily acquire land for any purpose deemed relevant and appropriate by the state or the people (Adjei-Poku Afrane & Inkoom, 2023). Statutory-owned lands are accessed through a government body, the Land Commission (LC) for purposes of national development. Customary lands are accessed by the family or clan heads or chiefs who have dispositional rights to the land bequeathed to the families by their ancestors as enshrined in the new Land Act 2020, Act 1036 (Adjei-Poku Afrane & Inkoom, 2023).

Members of the landholding groups usually have direct access to the portion of the family land bequeathed to them by their ancestors. However, depending system of inheritance the rights of the members of a land-owning family may vary the rights the allocated land confers (Britwum, 2019; Akugre et al., 2021). Non-members of the land-holding groups access their land through several diverse indirect mechanisms such as sharecropping arrangements, outright purchase, inheritance, gift, rental and common property among others (Adjei-Poku Afrane & Inkoom, 2023). Having the right to any land may connote access, ownership, use, control, transfer, inheritance and decisions regarding its related resources in a diverse livelihood construction activity (Akugre et al., 2021). However, non-members of land-holding groups enjoy usufructuary rights over an allocated land,

while within the land-holding group, the leaders hold over the allodial title and exercise in the interest of all members of the land-holding group (Ampadu, Onumah & Quaye, 2014).

The level of confidence of both members and non-members of land-holding groups that their rights over land and the economic benefits that accrue from it will not be arbitrarily denied is critical in tenure discourse (Fadeeva & Soliev, 2020). Weak land governance, corruption, discrimination, colonial legacies, population growth, urbanisation, and market pressures create gaps and inconsistencies between formal and customary systems of land administration (Adjei-Poku Afrane & Inkoom (2023). Strengthening the legal recognition and protection of land rights, improving the administration and management of land resources, promoting the participation and empowerment of land users, and addressing the underlying causes of land disputes enhance the security of tenure (Deininger & Byerlee, 2010).

Tenure security is important for achieving a range of development outcomes, such as poverty reduction, food security, environmental sustainability, and conflict prevention (Ampadu, Onumah & Quaye, 2014). Conversely, the absence of legal recognition and protection of land rights results in dispossession, displacement, conflict, and poverty. There is no one-size-fits-all solution to tenure insecurity, as each context requires a careful analysis of the historical, political, cultural, and ecological dimensions of the problem (Payne et al., 2021). Improving security tenure is key to sustainable development and human rights (Habitat-UN, 2020).

Commercial Agriculture

The concept of commercial agriculture is complex with varying definitions and emphases given in the literature. In one breath producing for a market as opposed to for home consumption might be considered commercial. The consensus view tends to describe commercial agriculture as the transition from subsistence production toward an increasingly complex production and consumption system based on market engagement (Snoxell, 2018). Broadly, the term commercial agriculture connotes large-scale cultivation of crops (cash and food crops) and the rearing of livestock for sale and not for household consumption.

According to Pingali (1997), commercial agriculture is more than marketing agriculture outputs. Agricultural commercialisation is attained when household product choice and input use decisions are made based on the principles of profit maximisation. According to Von Braun (1995), commercial agriculture implies increased market transactions to capture the benefits of specialisation. However, increased market transactions are more easily attained when there are favourable policies and institutional arrangements that promote an open domestic and international trade environment, and the development of market infrastructure and support services that facilitate access to existing markets and the opening up of new market opportunities under a secured legal system. To Deininger and Byerlee (2012) commercial agriculture is capital and input-intensive agribusiness entities that undertake modern industrial forms of agriculture on a large scale, taking advantage of economies of scale in production and distribution.

Tipraqsa and Schreinemachers (2009) conceptualize commercial agriculture as the integration of smallholder farmers into seven markets: variable input markets (buying inputs that vary with the level of crop or livestock production), land markets, fixed input markets (farm equipment), food and non-food consumption markets, farm output markets, and labour markets. A farm household is assumed to be commercialised if it is producing a significant amount of both cash and food crops, allocating a proportion of its resources to marketable commodities, or selling a considerable proportion of its agricultural outputs (Jaleta, Gebremedhin & Hoekstra, 2009).

Literature categorises commercial agriculture under three broad models namely plantation, contract farming and commercial farming (Smalley, 2013). Under the plantations model, one main cash crop is grown; requires capital investment and vast land holding size although some land may be left uncultivated. The plantation model relies on hired resident or non-resident labour, often including migrant labour; and is centrally owned and managed by foreign or domestic, private or corporate. With the contract farming model, farmers agree in a written or verbal contract to supply produce to a buyer, usually at a pre-determined price, on a specific date and to a certain quality.

Lastly, the commercial farming area model constitutes multiple private commercial farms of medium or large scale that are more or less contiguous in an area. The present study is delimited to large-scale cultivation of cash crops and operationalises commercial agriculture as mass cultivation of pineapple for sale and not for household consumption.

Tenurial Arrangements in Commercial Agriculture

The variation in land arrangements and tenure rights has been attributed to differences in the socioeconomic and cultural understanding of society by different people (Quaye et al, 2015). Members of land-holding groups can gain access to land through a social or family relation, however, a migrant has to follow an entirely different form of arrangement to be able to gain access to the land for farming (Akugre et al, 2021). Non-members of landholding groups usually go through certain formalities, which in most cases the members of land-holding groups would not have to go through to gain access to land for both subsistence and commercial agriculture purposes (Anaafo, 2015).

These tenure arrangements are based on the communal system of most Ghanaian societies and that land was and has always been communally owned by kin groups and passed down from one generation to another through the matrilineal or patrilineal inheritance system (Britwum, 2019). According to Gyapong (2021) even with the commodification and commercialisation of land access mechanisms and processes, the predominant means of land acquisition is through the customary law paving the way for the leaders or heads of families to have their way around land allocations. The present study operationalised land tenure as the series of arrangements between landowners and farmers regarding the allocation and use of land for commercial agriculture. The ensuing paragraphs elaborate on the various tenurial arrangements that surround commercial agriculture investment.

Sharecropping Arrangements

The sharecropping arrangement comes under two broad categories namely abunu and abusa. With the abunu tenure arrangements, the proceeds from the harvest or the farm produce may be divided evenly between the tenant farmer (sharecroppers) and the land landowner (Ampadu, 2013). When it comes to the sharing of the harvests, the landowner has the first choice of the products as divided. According to Anafo (2011), a significant feature of the sharecropping arrangement of land use is the relative contributions of labour and capital by the tenant farmer and the landowner. Under the abunu arrangements, the landowner is not expected to contribute labour, capital, and seedlings, however, this may vary with the individual agreements (Ampadu, 2013).

Under the abusa tenure arrangements, the proportion of the tenant farmer's land size to that of the landowner is two to one. Depending on the nature of investments that landowners make into the farming enterprise, the landowner just like in the case of abunu has the first choice and in some instances takes care of the farm and harvests the crop (Britwum et al., 2014; Britwum, 2019). However, the tenant farmer is employed to harvest the crop and take care of the farm for one-third of the farm produce after harvest. In other instances, an entirely different farmer may be hired to take care of the farm under similar arrangements. The land owner makes a significant contribution to farming in terms of inputs and even sometimes supports the tenant farmer till the crops are ready for harvest (Ampadu, 2013). However, with abusa arrangements, the landowner contributes nothing apart from the tract of land; the sharecropper is expected to use one-third of the harvested

crop to finance the cost of operations on the farm and the other one-third as his remuneration, while the landowner receives one-third as his rent for the land (Quaye, Ampadu, Onumah & Titiati, 2015).

Generally, under any variant of the sharecropping tenancy, the land owner dictates the sort of crop that the tenant farmer has to cultivate on the farmland. The tenant farmer (sharecropper) is not free to cultivate any crop without the prior consent and approval of the landowner. Failure to heed the orders of the landowner regarding the kind of crop to be cultivated will result in the ejection of the tenant farmer (sharecropper) from the farmland (Gyapong, 2021). The application of the aforementioned sharecropping arrangements has evolved in Ghana over a century. Previously, the owners' land was not entitled to receive a share of food crops cultivated to establish the cash crop. Landowners now demand a share of the profits from the sale of food crops used as cover crops on young cash crops. This requires tenant farmers to acquire more land than the indigenes which they then sublet under sharecropping. Tenant farmers are restricted from cultivating cash crops for which they acquired the land leaving them with no land for growing food crops to feed their families compelling some tenant farmers to acquire land solely for subsistence farming (Quaye et al., 2015).

Outright Purchase

Under this tenurial arrangement, migrant farmers and residents who are non-members of land-owning groups access customary land through outright purchase (Britwum, 2019). When the request is granted, the sub-chief sends “boundary cutters” to demarcate an area for migrant farmers or non-members of

land-owning groups and that becomes his/her plot. On the return of the boundary cutters, the sub-chief, in acknowledgement of the transaction and on the advice of the boundary cutters, would charge the migrant farmer some amount of money, referred to as “drink money”, the payment of which grants the prospective farmer access to the land (Ampadu et al, 2014).

Usually, a document is prepared to cover the transaction, and the farmers pay surveyors to make plans for them. However, extant literature has revealed that there are some controversies between landowners and migrant farmers over the question of whether such a transaction gives absolute title to the land to the farmer (Ampadu et al, 2014). While some chiefs tend to sell the same piece of land to more than one migrant farmer, some migrant farmers under the pretence of establishing large-scale commercial farms, acquire vast stretches of land which they later sublease to new migrant farmers whose identities they conceal from the chiefs resulting in boundary disputes (Ubink, 2008). Under this arrangement, the migrant farmers or non-members of land-owning groups become landlords in their own right and charge higher rents to their co-farmers who might come later.

Rental Arrangements

The rent agreements are another mode through which people access land for commercial agriculture purposes. These are usually governed by informal arrangements with witnesses on both sides. The rent arrangements suffer from the same problems as outright purchase/lease as only marginal lands are rented out for commercial agriculture (Quaye et al, 2015). This is because land renting is accompanied by a high incidence of pressures on land or near-land hunger.

Following the recommendation by a committee on the need to control land rents, which were identified as one of the major causes of indebtedness of farmers. The new Land Act 2020, Act 1036 authorised the appropriate land-owning family to fix rent on land (Gyapong, 2021). The rental tenancy made it illegal to demand or receive higher rent than that prescribed by the law and prohibited the ejection of tenants that deviate from the laydown procedures (Adjei-Poku Afrane & Inkoom, 2023). These arrangements provoked disputes in commercial agriculture areas, especially in the new frontier zone, where there were clashes between tenants insisting on the protection of the enactments and landowners who opposed the legislation (Akugre et al, 2021).

Gifts

Land can be obtained for commercial agriculture through gifts by landowners to migrant farmers who can establish that they belong to the same clan as the landowning clan of the community where they have gone to search for land for agricultural purposes (Adjei-Poku Afrane & Inkoom, 2023). Upon a careful selection and preliminary enquiries of the community, the migrant farmer first introduces himself/herself to the clan head as a member of the same clan in his home town on arrival (Gyapong, 2021). The clan head would in turn introduce the farmer to the chief of the community and offer a bottle of schnapps to the chief. If the claims of migrant farmers are accepted and accorded full membership in the clan in the community, the basis of which access to clan land as a member of the landowning group will be granted (Quaye et al, 2015). The migrant farmer pays

nothing in exchange for the land other than to discharge his or her civic responsibilities as a clan member.

According to Anafo (2011), a considerable number of migrant farmers gained access to land for decades when virgin land was in short supply. Migrant farmers may also secure access to land as a gift through marriage from the spouse or the husband's family. Tenure arrangements secured under gift do not place any restriction on the sort of crops the migrant farmer or non-member of the land-owning family can cultivate on the land (Ampadu, 2013). Under the gift arrangement, the husband or wife or the children resulting from the marriage would inherit and continually farm on the land or farm when the migrant farmer dies (Quaye et al, 2015). However, if the marriage breaks down, the farm or land would either revert to the land-owning family or the surviving member of the family to which the land was gifted.

Inheritance

The idea of a family in Ghana like in most Sub-Saharan Africa extends beyond its conjugal members. A lineage is by far a larger web of relationships in which all members have a common ancestor, either male or female. The inheritance rights of spouses and children depend on the form of marriage and their lineage traditions. In contemporary Ghana, about eighty per cent (80%) of marriages are witnessed solely under the customary system (Akugre et al, 2021). The applicability of the customary law varies across ethnic groups, and each ethnic group's tradition is an intricate body of rules, obligations, and norms. However, Ghana's customary legal regimes as regards inheritances can be meaningfully divided into two broad

forms namely, matrilineal and patrilineal traditions. In Ghana, people who are members of landholding groups have the right of inheritance from their lineage when land is required for agricultural purposes (Gyapong, 2021). In both matrilineal and patrilineal wife and husband are never members of the same family, making it difficult for customary law to grant equal access to land for spouses and children who are legally not members of the matrilineal landholding group. However, when it comes to acquiring land for residential purposes many prefer to buy to prevent future litigations with other family members (Adjei-Poku Afrane & Inkoom (2023).

Common Property

The common property has been prevalent specifically in the Pacific Islands and Africa and in North America, South America, and parts of Asia until the European conquests (Quaye et al, 2015). The common property systems are still used today in many indigenous communities; however, details of this tenure arrangement differ across societies (Stevens, 2022). In Ghana, some land resources are termed common property and all residents of the community have access to such resources. These are usually streams, grazing lands and game and wildlife. Traditionally, they were considered sacred, and common-use resources were protected by rites and strict rules and sanctions guiding their use. However, the advent of Christianity has weakened the strict rule governing common property usage in most rural communities. Anaifo (2011) also indicated that common property has come under severe stress due to a lack of formal rules, and roles assignment to govern their utilisation.

Conceptualising Livelihood

According to Chambers (1995), livelihood is a combination of the resources used and activities undertaken to make a living. A combination of the capabilities, assets, and activities required for living (Chambers & Conway, 1992). These capabilities are dependent on the availability and accessibility of options in terms of ecological, economic and political resources which are predicated on equity, ownership of assets and participatory decision-making (Patnaik & Prasad, 2014). However, Ellis (2000) argues that the conceptualisation of livelihood by Chambers and Conway (1992) failed to capture the change that occurs over time and the adaptation to evolving circumstances. Ellis (2000), alludes that livelihoods are subject to change and their construction has to be seen as an ongoing process in which it cannot be assumed that the elements remain the same from one season, or from one year to the next. Baumann (2002) broadly viewed livelihood as the people, their land, their capabilities and their means of making a living.

In most rural settings, aged smallholder farmers are perceived as people who are passive, unproductive and mostly dependent on the help of others. However, before people reached the later life stage, they were involved in many different activities that earned them a living and were also breadwinners for their families. Although the rate of work or activity undertaken by the aged smallholder farmers may reduce due to frail or weakened body, nothing indicates that when one reaches old age their skill, potential, and capacity to work diminishes (Thunberg, Jerker, Krantz, & Lasse, 2003). The continuity theory explains that with adequate

assets, aged people can utilize their capabilities to ensure sustained livelihoods and improve social well-being (Atchley, 1971).

Livelihood Choice

A livelihood choice connotes the range and combination of activities and strategies that aged smallholder farmers make to achieve their livelihood goals (Riithi, Irungu & Munei, 2015). Thunberg et al (2003) aver that livelihood choices are determined by income earned through various livelihood activities. This implies that obtaining income from different and multiple sources tends to improve livelihood and increase the standard of living of the aged smallholder farmers (Thunberg et al., 2003). Based on the personal livelihood goals of the aged smallholder farmers, their assets base and their understanding of the available livelihood options, different livelihood choices can be pursued (Agyemang, 2014). These strategies include short-term considerations such as ways of earning a living, coping with shocks and managing risk, as well as longer-term aspirations for children 's future and old age.

According to Chambers and Conway (1992), livelihood choices can be positive, enabling the aged smallholder farmers to become more resilient and less vulnerable, or negative when they result in further erosion and a decrease of the resource base. The fundamental goal of livelihood choices is to ensure household economic and social security. Thus, the present study operationalized livelihood choices as the combination of activities with which the aged smallholder farmers decide to undertake to achieve livelihood goals in the rural setting. The present

study draws on the three-broad cluster of livelihood choices identified by (Scoones, 2002), as elaborated below.

Agricultural Intensification/Extensification as Livelihood Choice

According to Scoones (2002) in the pursuit of livelihood improvement, one would rather gain more of a livelihood from agriculture intensification (more output per unit area through capital investment or increases in labour output) or extensification (more land under cultivation). For successful agricultural productivity, one has to put into use these two concepts, especially agricultural intensification which may also be equated to commercial agriculture, a more business-like form of production.

For vulnerable rural-aged smallholder farmers, deprivation of endowed resources (land) and weak institutional policies have been seen to be the major causes of low and declining agricultural production. Agricultural intensification is seen as the use of average inputs of labour or capital in smallholdings either on cultivated land or on grazing land or both, to increase the value of output per hectare (Tiffen et al, 1994). Agricultural intensification links up with commercial agriculture, the production of crops for sale to a wider market, unlike subsistence agriculture which is intended for household consumption only. Agricultural extensification reflects a system of crop production that uses less labour and capital in the area of land cultivated. Crop yields in extensive agriculture depend on such things as soil fertility, the terrain, climate and the availability of water (Muruviwa, 2011).

An important factor in the distinction between agricultural intensification and extensification concerns the processes and asset endowments of the two types of agriculture (Tiffen et al, 1994). Agricultural intensification requires financial, physical and labour resources that is, it employs large amounts of labour capital and requires one to apply fertilizers, insecticides, and fungicides and to plant, cultivate, and often harvest mechanically. The process of agricultural intensification takes different forms that have different outcomes for the livelihoods of rural people.

An expansion of agricultural land, intensification of labour per unit area of land using traditional methods, creation of on-farm employment for rural people, an adaptation of capital-intensive methods and a change in product mix (Craswell, 1997). Of paramount importance is that the intensification of agricultural production brings a change in overall rural economic growth as new opportunities are opened up, both on-farm and off-farm, resulting in the betterment or improvement of rural livelihoods. Ellis (2000) argued that the process of reducing vulnerability and poverty and raising incomes by on-farm diversification while combining invaluable non-farm diversification activities for better livelihood enhancement results

On-Farm and Off-Farm Diversification as Livelihood Choice

Livelihood diversification is an active social process which involves the maintenance and continuous adaptation of a highly diverse portfolio of activities (farm and/or nonfarm) over time to secure survival and improve standards of living (Ellis, 2000). Livelihood diversification is said to have occurred when rural

households or individuals engage in diverse portfolios and social support capabilities to survive and improve their standards of living (Ellis, 2000). The livelihood diversification process offers rural dwellers with both on-farm and off-farm livelihood activities which are more inclined to sustain and improve their livelihood (Scoones, 2000). On-farm diversification has to do with the maintenance of a varied spread of crop and livestock production activities complementing each other in various ways (Ellis, 2000). It involves cultural practices that are specifically designed to spread risk or to take advantage of complementarities between crops in their use of soil nutrients, sunlight and other resources (Muruviwa, 2011). By contrast, monoculture is seen as the opposite of on-farm diversification because smallholder farmer relies on planting one type of crop over time (Agyemang, 2014).

Fundamental to the discourse about on-farm diversification is the question of whether and how the process brings a desired change in the livelihoods of rural people and why one should diversify on-farm activities (Ellis, 2000). Existing literature alludes that traditional cultivation methods such as mixed cropping have lessened the adverse impacts of unexpected risks and uncertainties, such as unseasonal temperatures and drought because different crops in the mix possess different degrees of resilience to unstable climatic conditions (Muruviwa, 2011; Agyemang, 2014).

Correspondently, soil science experts argued that mixed cropping adds to the soil nutrient which continuing monoculture practice does not. The significance of on-farm diversification is to guard against general crop failure and fulfil the need

to diversify income production and sustain livelihood. Farm diversification that involves intensification has the potential to increase overall productivity and hence improve the livelihood of the farmer. In most rural settings agriculture has become the main livelihood strategy as households have free access to natural capital and utilize it to grow crops and guard against food insecurity.

Apart from agriculture diversification, rural smallholder farmers diversify to off-farm livelihood activities to improve their standard of living and sustain their livelihood (Scoones, 2000). According to Michailidis & Lazaridou (2020), the off-farm livelihood diversification choice lies on or between the boundaries of the usual rural-urban and agricultural-non-agricultural activities. It encompasses economic activities which occur in rural areas, but which are not directly associated with agriculture. The off-farm diversification livelihood choices are not regarded as homogenous since they incorporate self-employment, micro- and small medium-sized enterprises, and trade activities (Stifel, 2010). These activities enable smallholder farms to obtain higher returns which in turn improves their livelihoods. The off-farm livelihood diversification choice is particularly extensive and important for smallholders and landless farm families. According to Rahman and Mishra (2020), off-farm activities have a positive influence in absorbing a growing rural labour force, slowing rural-urban migration and contributing to the national income growth of a country.

The off-farm activities include all economic activities in rural areas except agriculture, livestock, fishing, and hunting (Rahman & Mishra, 2020). The rationale behind the choice of off-farm activities varies among smallholder farmers.

However, literature alludes that rural dwellers engage in off-farm activities such as transport services, charcoal production, firewood gathering, repair services, packaging, bulking, furniture making, and carpentry making among several others as a livelihood choice to stabilise their income and to generate complementing income for covering family living expenses if their farm revenue is not sufficient to support family needs and to provide the financial protection for the family (Haggblade et al., 2010). That notwithstanding, factors such as low income from on-farm activities, lack of financial resources, time constraints, lack of training and awareness and health-related issues among others can impede the ability of the rural dwellers to realise the benefits that come with off-farm activities as a livelihood choice (Sani,2017).

Migration as a Livelihood Choice

Migration as a livelihood choice is important as it links up with labour market factors in making survival decisions. The antecedents of migration have been oppression and poverty. According to Skeldon (1997), migration emanates from the desire to improve one's livelihood. The costs and risk are part of migration consideration, as are knowledge and social relations (De Haas, 2006). This suffices to say that before one embarks on migration it is imperative to consider the socio-economic development factors such as increasing income, educational qualification and access to information that accompany rising immigration. People migrate from low-wage rural areas to high-wage labour-scarce regions making labour less scarce at the destination and scarcer at the receiving end.

From this perspective individual choice is not an issue in the decision to migrate, rather individuals are forced to move because of an undermined traditional economic structure by their incorporation into the global political and economic systems (Skeldon, 1997). Rural people migrate from their regions not because of individual choice but rather because of the failure of the rural economy to ensure better livelihoods, employment opportunities and services (De Haas, 2003). The historical structuralists hold the view that migration is a natural outgrowth of disruptions and dissolutions inherent in the processes of capital accumulation (De Haas, 2006).

According to Massey et al, (1999) global capitalism has contributed to the development of underdevelopment and structuralists have interpreted migration as one of the many negative manifestations of capitalist expansion. Migration ruins stable peasant or rural societies and undermines their economies, uproots their populations and urban centres gain much from proletarian, cheap, immigrant labour (De Haas, 2006). Migration compels the underprivileged to leave rural areas for better fortunes in developed contexts (Muruviwa, 2011). De Haas (2006) in his analysis of the aforementioned theories argued that the theories are too rigid and deterministic in dealing with the complex realities of migration and development realities. The neo-classical perspective views migrants as a homogeneous group focused exclusively on maximising income and automatically reacting to wage differences hence overlooking individual agency.

Central to the New Economics of Labour Migration perspective is the integration of motives that play a role in the migration decision, not individual

income maximization reasons as purported by the neo-classical stance (De Haas, 2006). Yet, migration as a livelihood choice open to rural people plays a substantive role in providing potential sources of investment capital and makes up for the lack of credit and social security against risks in developing countries (Agyemang, 2014). Based on the foregoing submissions, the present study operationalises livelihood choices as the combination of activities that aged smallholder pineapple farmers undertake to achieve their livelihood goals.

Influence of Land Tenure Arrangements on Livelihood Choices

Access and use of land in any setting is enshrined in an institutional framework that dictates who gets the land, when and how (Akugre et al., 2021). Land tenure connotes the relationships that exist among individuals in a community regarding their land rights (Stevens, 2022). In Ghana, land ownership is categorized into two; state or public and private land ownership as stipulated in the new Lands Act of 2020 Act 1036 (Adjei-Poku Afrane & Inkoom, 2023). Land access and use are of great importance as they shape the livelihood choices of rural communities in Ghana, where agriculture is a fundamental livelihood activity. Besides being one of the major economic activities in the country it is a whole way of life for the majority of the population. Agriculture provides occupation, and culture for rural people (Quaye et al, 2015).

Determinants for livelihood choices hinge on the assets people have access to and how these are combined in the effort to ensure their immediate survival and sustain livelihoods in future. Land as an important livelihood asset offers several benefits to people who have extensive land rights and generally enables them to

enjoy a more sustainable livelihood than those with limited rights to land (FAO, 2010). The tenurial arrangements of any rural community offer several modes with which rural smallholder farmers can access land for livelihood construction activities. According to Gyapong (2021), many varieties of tenure arrangements surround access and distribution of land for commercial agriculture in Ghana under customary landholdings or formalized through private property rights. Literature alludes that the influence of the different kinds of tenure on the livelihood choices of smallholder farmers is numerous. According to the Food Agriculture Organisation (2010) property rights to land, together with labour, form the most common endowments used to produce food for home consumption as well as cash crops that allow the family or individual to pay for other needs such as health and education.

The institutional theory emphasises that property right is perceived as a necessity to ensure investment and productivity of the land which in turn improves and sustains the livelihoods of rural dwellers (Akugre et al., 2021). One of the most important aspects is the opportunity to use the land right to acquire financial capital. The dominant belief is that land tenure security leads to long-term planning and land investment through stimulating commercial agriculture activities to improve the conditions for the rural poor through improved and sustained livelihood (Rahman & Mishra, 2020). Insecure tenurial arrangements have negative repercussions on the livelihood choices of smallholder farmers (Gyapong, 2021). Tenure insecurity leads to short-term planning and low investment in the used land and impacts on the income possibilities of rural households as well as

environmental effects as short-term planning rarely involves considerable conservation (FAO, 2010). From the foregoing discourse, the secured tenurial arrangement is critical to the livelihood construction activities of rural-aged smallholder farmers and other vulnerable groups.

Conceptualising Ageing

There is no consensus as to what constitutes ageing. The concept of 'aged' is defined from the perspective of the capacity to remain self-sustaining and economically active (WHO, 2020). Due to the varying connotations of the concept, the United Nations experts on ageing prefer the term "ageing" to "elderly" because it provides a more adequate description of the continuing development and change during the later stages of the life span, rather than a fixed or static period of life (Agyemang, 2014). Muruviwa (2011) aged is a stage in life beginning in the early sixties, in which retirement from work and many other social responsibilities is expected. The United Nations classifies those aged 60 and above as aged. However, in Africa, the situation seems to be different as the formal retirement age ranges between 55 and 60 years (Phillipson, 2013). According to Haberkern, et al (2011), ageing is heterogeneous in terms of the level of activity or health and the younger aged between (65-75 years) are physically independent and healthy, whereas the older aged between (75-85 years) suffer from bad health and are often dependent on others.

Most developed countries have accepted the chronological age of 65 years as a definition of 'ageing', but like many westernised concepts, does not adapt to the situation in Africa. The more conventional definition of aged person in Africa

correlates with the chronological ages of 50 to 65 years depending on the setting, the region and the country (Muruviwa, 2011). The common use of a calendar age to mark the threshold of old age assumes equivalence with biological age. Yet it is generally accepted that these conceptualisations are not necessarily synonymous (Agyemang, 2014). For this study, aged is conceptualised as attaining sixty years and above as it is the official situation in Ghana.

The changing population structure globally portrays advanced countries as the higher components of the ageing population. As of 2020, about (31.0%) of the Japanese population was above 60 years old, (27.0%) for Italy, (26.0%) for Germany, and (25.0%) for Greece (UNDP, 2019). It is further projected that by 2050, about two-thirds or (75%) of the population of these countries mentioned will be 60 years plus. This has necessitated improvement in health facilities, better standards of living and a concrete social security system to sustain and prolong their life span. However, most developing countries have no such social provision to cushion the aged people against poverty.

Africa, as the youngest continent, is now undergoing dramatic change as the continent is experiencing the fastest rate of growth in the number of older people in the population than any other continent in projections (UNDP, 2019). In terms of proportion of the total population, the percentage of people aged 60 and over increased from (5.6%) by 2015, (6.8%) by 2030 and rise to 10.4% by 2050. The reality is that older people will make up an increasingly significant share of the population in Africa. According to the United Nations (2019), the proportion of aged people in Africa will be 103 million by 2030, and the number of aged people

is projected to rise to 205 million by 2050. In Ghana, about (72%) of aged Ghanaians live in rural areas, with about (69%) of the aged population being females (GSS, 2021). From the conceptualisation discrepancies the term aged, ageing is certainly socially constructed. Aside from the chronological, social and cultural factors associated with ageing, the age at which ageing begins is inimitable to every country.

Aged Smallholder Farmers

The term smallholder or small-scale agriculture is a loosely used concept (Food and Agriculture Organisation, 2019). This is because the term smallholder differs by context based on resource endowment such as land, labour, as well as the type of commodity being produced. Other terms used interchangeably with smallholder farmers include but are not limited to 'small-scale' 'resource-poor' and peasant farmer among others. According to Jaffee (2011), a smallholder farmer is a farmer whose land holding is less than five (5) hectares. The definition of a smallholder or small-scale farmer varies widely across countries depending on the features taken into consideration. For instance, in Ethiopia and Kenya, Smallholders are farmers with up to two (2) acres of land while in Zambia, smallholders are farmers with five (5) acres of land holding.

In Ghana, smallholder farmers are described as groups of small-scale and family producers with less than twenty (20) acres of land holdings coupled with limited access to inputs, mechanical equipment, credits and training (Burke, et al, 2022). These farmers are normally characterised by mixed subsistence farming (livestock and crops) and can either be rain-fed or irrigated. But generally,

smallholders are farmers operating under structural constraints such as access to suboptimal amounts of resources, technology and markets (Khalilet al, 2017). Often, the term is used to refer to any farmer who does not cultivate on a large scale and/or is not very financially well off (Burke, et al, 2022). However, this study employs the technocratic definition of smallholder which is based on farmland size, with the commonest threshold land holding of less than two hectares (MoFA, 2020). More specifically, this study operationalises aged smallholder farmers as pineapple farmers both male and female aged sixty (60) years and over who cultivate less than 2.0 hectares of pineapple.

Commercial Agriculture and Livelihood Choices of Smallholder Farmers

The rise of commercial agriculture in Ghana follows the liberalisation of the economy and the need for foreign direct investments within the doctrine of agriculture modernisation. This necessitated investment in land such as commercial agriculture a major developmental vehicle and mode of capital accumulation in the wake of the food and energy crises which occurred across the globe (Hall et al, 2015). This has made land in developing countries the most sought-after commodity for commercial agriculture investment. Commercial agriculture investment and its attendant tenure forms raise concerns about the land size, land deprivation and forfeiture of livelihood of rural dwellers but also offer opportunities for expanding employment, economic growth and improved livelihood (Deininger et al. 2011, White et al. 2012).

The debates also revolve around the relative merits of large versus small farms and their implications for land rights for smallholders, labour absorption,

livelihood prospects and economic spillovers to the inhabitants of the recipient communities (Baglioni & Gibbon, 2013). Scholarship on commercial agriculture concerns itself with the existence of scale economies or lack thereof with much focus on a general inverse relationship between farm size and productivity (Collier & Decor 2009). Production pressure following commercial agriculture investment coupled with the associated tenure arrangements increased demand for land in a fiercely competitive atmosphere where the powerful displace the weak and threaten their livelihood activities (Yaro, Teye & Torvikey, 2018).

According to Glover and Jones (2016), commercial agriculture alters the prevailing tenure forms and influences the livelihood choices of the landless and other vulnerable groups in the rural community. Smallholder farmers with usufructuary titles are displaced from their land by allodial title-holders who lease vast tracks of land to multinational companies for commercial agriculture purposes (White et al. 2012). The proceeds from the sale of crops and wages for labour on commercial farms are a principal mechanism through which rural dwellers can construct a satisfactory livelihood if the incomes gained are spent or invested in activities with strong local multipliers (Glover & Jones, 2016).

According to the Food and Agriculture Organisation (2019), areas with many jobs created from commercial agricultural ventures are more likely to be 'dynamic' in terms of the livelihood choices farmers make. However, the real impacts are felt by the farmers' income elasticity relative to the local supply response which is presumably large in poor rural settings (Agyemang, 2014). Commercial agriculture investments have been found to exclude local hands from

the production process; rather, the few job opportunities created were often filled by more skilled migrants (Muruviwa, 2011). Coupled with reduced land size and the threat of land dispossession (Cotula, 2013), commercial agriculture investment has generated warnings about the threatened livelihood choices of smallholder farmers (Glover & Jones, 2016). This resonates with deeper concerns about inequality in land ownership and tenure insecurity resulting in the marginalisation of poorer smallholder farmers (Smalley, 2013). Evidence of land deprivation caused by the expansion of large farms has prompted policy attention towards inclusive agricultural growth and the relative influence of different pathways of commercial agriculture (Smalley 2013).

Empirical Review on Commercial Agriculture and Livelihood Choices

This section of the study reviewed works done by prior research that are related to the subject of the present study. According to Baumeister and Leary (1997), empirical review prevents researchers from reinventing and allows them to build on what is already known and prevent duplication of findings that have already been established. This suggests that empirical review helps in focusing the study on the unknown issues and guides and directs the research questions, shapes the methodology chosen and offers guidelines for the analysis of the data collected. Also, the empirical review helps validate the findings of the study (Griffiee, 2012). The review was ordered from the most recent to the least recent in a sequential manner as it ensues.

Dzanku, Tsikata and Ankrah (2021) examined the condition under which commercial agriculture promotes or hinders smallholder farmers' food security in

Southern and Northern Ghana. The study employed a comparative mixed method approach using four districts namely Kwaebibirem, Asunafo North, East Gonja and Garu-Tampene in Southern and Northern Ghana respectively. The study was underpinned by the livelihood framework and the feminist political ecology because the study sought to understand the spatial and the gendered context with which smallholder agriculture commercialisation benefits food security or otherwise.

Dzanku et al., (2021) drew a sample of 639 from a study population of 100,750 using Krejcie and Morgan's (1970) sample size determination table. The population for each district was stratified and simply randomly selected for the quantitative data while participants for the qualitative data were selected purposively. The study found that in Northern Ghana, commercialisation was driven by necessity which had negative implications for the food security of smallholder farmers. The study also found no positive nexus between commercialisation and smallholder food security. However, in Southern Ghana, commercialisation enhanced food security up to a threshold where allocation for non-food crops affects food security due to food market inefficiencies (Dzanku et al., 2021). The study concluded that commercial agriculture affects smallholder food security and plunges them into poverty in the absence of off-farm livelihood diversification and efficient food markets. The study recommended that policy promotion on commercial agriculture needs to be crafted within the wider scope of rural transformation (households) and not macro and meso level (Dzanku, et al., 2021).

Tran, Nguyen and Nguyen (2021) investigated the role of landlessness and landholdings in the choice of livelihood and household income in the Red River Delta, Vietnam. Unlike the case of Ahmed (2017), Tran et al., (2021) relied on secondary data from the 2018 Vietnam Household Living Standard Survey (VHLSS). The study classified the livelihood choices pursued by households into five main clusters, namely informal wage-earning jobs, formal wage-earning jobs, nonfarm self-employment, agriculture, and non-labour livelihoods. Tran et al., (2021) also employed a quantitative approach like the case of Ahmed (2017) to address the influence of landlessness and landholdings in the choice of livelihood and household income in the Red River Delta.

Tran et al., (2021) study like that of Ahmed (2017) employed both inferential and descriptive statistical tools to address the study objectives. The study found that non-labouring, agricultural, or informal wage-earning households earn less per capita income on average than formal wage-earning or non-farm self-employment households. The study further established that land scarcity is not a significant obstacle preventing rural households from seeking gainful livelihoods in the region. Based on the findings the study recommended that improving education and supporting non-farm activities should be high-priority government policies for local households with limited land and education (Tran, Nguyen & Nguyen, 2021). These policies are expected to help rural households not only to transform their livelihoods but also improve their economic well-being

Ahmed (2017) investigated the potential influence of commercial agriculture on the livelihood outcomes of smallholder farmers in Bangladesh. The

study randomly sampled 100 participants from six communities in Terokhada upazila under Khulna district to gather primary data. In contrast, to (Dzanku, et al., 2021) study, Ahmed (2017) employed only a quantitative research approach to establish the impacts of commercial agriculture on the welfare of smallholder farmers in Bangladesh. Specifically, the study employed the Pearson product-moment correlation and regression as an inferential statistical tool to examine the causal relationship between the commercialisation of agriculture and household welfare outcomes.

The result of the analysis revealed a statistically significant relationship between commercial agriculture and household welfare in terms of market access and internal farming activities positively and significantly contributing to improved household income and farm outputs. The results of the regression analysis further showed that a (16.9%) improvement in the household welfare of smallholder farmers is explained by commercial agriculture with better market access and internal farm activities. The study concluded that commercial agriculture improves the livelihood outcomes of smallholder farmers. The study recommended that the government of Bangladesh should equip smallholder farmers with the requisite technical expertise and equipment to engage in commercial agriculture since it has the potential to improve the livelihood outcomes of the smallholder farmers (Ahmed, 2017).

A study by Riithi, Irungu and Munei (2015) examined the determinants of a choice of alternative livelihood by households as well as the livelihood choices made by Solio a resettlement area in Central Kenya. The study was guided by two

objectives, the first objective described the livelihood activities undertaken by households in Solio a resettlement area in Central Kenya. In line with the study by Ahmed, (2017); Njuguna (2015) assessed the factors that influence the choice of alternative sets of livelihood choices in the Solio resettlement. The study was underpinned by the Boserupian and the Malthusian theories and economic development due to population increase beyond the carrying capacity. A sample size of 210 was drawn from a total population of 3082 comprising total inhabitants of the seven villages in the Solio a resettlement area. Riithi, Irungu and Munei (2015) employed Krejcie and Morgan sampling size determination formulae like the case of (Dzanku, Tsikata & Ankrah (2021). Primary data for the study was gathered using a semi-structured questionnaire.

The study employed descriptive statistics (mean, standard deviation) and inferential statistics (Poisson regression model) using IBM-SPASS and STATA to address the first and the second objectives respectively. The study findings revealed that households in the Solio resettlement had diversified livelihoods from agriculture, where off-farm activities contribute over (67.4%) of total household income. The study further found that the age and technical skill of the household head positively influence the livelihood choice made by the sampled household heads. The study recommended that the technical skills of the individual household should be equipped through training since it has a positive influence on the livelihood choice of individual households and helps curb the problems of food insecurity and youth unemployment (Riithi, Irungu & Munei (2015)

Agyemang (2014) explored how the aged in rural Ghana negotiate their means of livelihood. The study sampled 300 participants comprising the elderly, caregivers, village chiefs, heads of NGOs and government organisations from three geographical zones of Ghana, namely, central, forest and savannah. The simple random technique was used for the elderly, caregivers, and village chiefs, whilst purposive samplings were used to select heads of NGOs and assembly members from each zone. Both qualitative and quantitative data collection instruments such as questionnaires, in-depth interviews and focus group discussions.

The specific mixed method approach employed was the concurrent triangulation strategy and exploratory sequential design which were slightly different approaches adopted by (Dzanku, et al., 2021). The study employed the theories of disengagement, activity theory and continuity theory as theoretical foundations to explore the survival strategies of the aged in rural Ghana. Both Agyemang (2014), and Dzanku, et al (2021) adopted the sustainable livelihood framework to support the theoretical framing of the study. The quantitative data was analysed with statistical tools such as mean and percentages with the aid of an analytical software called Statistical Package for Social Science (SPSS) Version 16 whilst the qualitative data was transcribed and analysed thematically. The study found that the aged in rural Ghana continuously engaged in economic activities to provide for their needs in the absence formal social security system for the rural aged and the disintegrated nature of the family support system they are compelled to fend for themselves (Agyemang, 2014).

The study further revealed that the government has not provided reliable support to the rural aged in Ghana except for the elderly above 60 years enjoy free health care under the recently established National Health Insurance Scheme (NHIS). The study recommended that the State devote urgent attention to the National Ageing Policy as an institutional framework to offer care for the elderly in Ghana (Agyemang, 2014).

Lessons Learnt from the Empirical Review

Most studies reviewed in the preceding section concentrated on how commercial agriculture improves the well-being of recipient rural communities in terms of food security, employment, and poverty eradication among others using the entire rural population as the units of analysis (Dzanku, Tsikata & Ankrah 2021; Tran, Nguyen & Nguyen, 2021; Ahmed, 2017; Riithi, Irungu & Munei (2015, Agyemang, 2014; Muruviwa, 2011). With the prominence of commercial agriculture investment on the international development agenda of both developed and developing countries there is limited discussion among development practitioners and policymakers on the age profile of smallholder farmers, let alone consider how tenure forms accompanying commercial agriculture influence their livelihood choices.

Given the heterogeneity in old age among smallholder farmers and the disproportionate influence of tenure forms accompanying commercial agriculture on the livelihood choices of the aged smallholder farmers remains unexplored. The only study conducted in the global south that looked at the livelihood activities or survival strategies of the aged, but not about commercial agriculture was that of

Agemang (2014) and Muruviwa (2011). Initiating a study of this nature will bring to bear how rural aged smallholder negotiate their livelihood choices in the absence of an institutionalised social safety net.

Methodologically, prior researchers investigated the theme from a quantitative standpoint to the neglect of qualitative methodological lens, hence the decision to approach the study qualitatively. Approaching the topic qualitatively allows for an in-depth on the opinions, and lived experiences, of aged smallholder farmers regarding how commercial agriculture and its attendant tenure forms influence their livelihood choices and livelihood goals. It is this knowledge deficit that inspires the present study. The forgoing empirical lessons informed the development of the conceptual framework (figure 1) for the study.

Conceptual Framework

The ensuing conceptual framework was developed from the theories and the concepts underpinning the study. The conceptual framework tells how commercial agriculture and its accompanying tenure forms influence the livelihood choices of the aged smallholder farmers and lead them otherwise towards the realisation of their livelihood goals. The continuity and institutional theories were used to unpack issues regarding commercial agriculture, tenure arrangements, livelihood choices and goals of the aged smallholder farmers. Under the customary tenure system are several modes such as sharecropping, inheritance, lease, purchase, gift, rent, and outright purchase through which land can be accessed for commercial agriculture purposes.

Access to land for commercial agriculture is mediated by transforming structures, institutions and processes (laws, policies, culture, power relations), which are also perceived to be contributing factors to the vulnerability of livelihoods. Although, Ghana operates tenure plurality. Yet, the customary tenure system determines access to and control over land which varies across gender, geographical context and cultural regimes. The customary norms surrounding access and control over land symbolise social justice and accord equal rights to all members of the landholding group. This is possible when there are appropriate institutions to oversee the transfer of land from one person to another for agriculture and other purposes.

The presence of weak land market institutions breeds tenure insecurity and creates opportunities for economic gains distorting the customary means of accessing land in the face of commercial agriculture investments in most agrarian communities. Land which is a traditional social security of the aged smallholder farmers as far as their agrarian livelihood construction activities are concerned becomes the most sought-after commodity among the rural dwellers. The influx of other agrarian players such as cooperations, farmer cooperatives, and individual farmers among several others exert pressure on available land in the recipient community subjecting its inhabitants to land hunger. The changing shades of tenure compel the aged smallholder farmers to adopt several livelihood activities to realise their livelihood goals in the absence of a formal social safety net for the rural aged. Regardless of the state of health of the aged farmers, their perpetual engagement in agrarian livelihood construction activities becomes very imperative as explained by

the continuity theory. Amid the changing tenure forms following commercial agriculture investment the aged smallholder farmers have the option to engage in on-farm or off-farm livelihood activities, intensify or extensify agriculture or employ a combination of these adaptable livelihood choices to achieve their livelihood goals (Figure 1.)

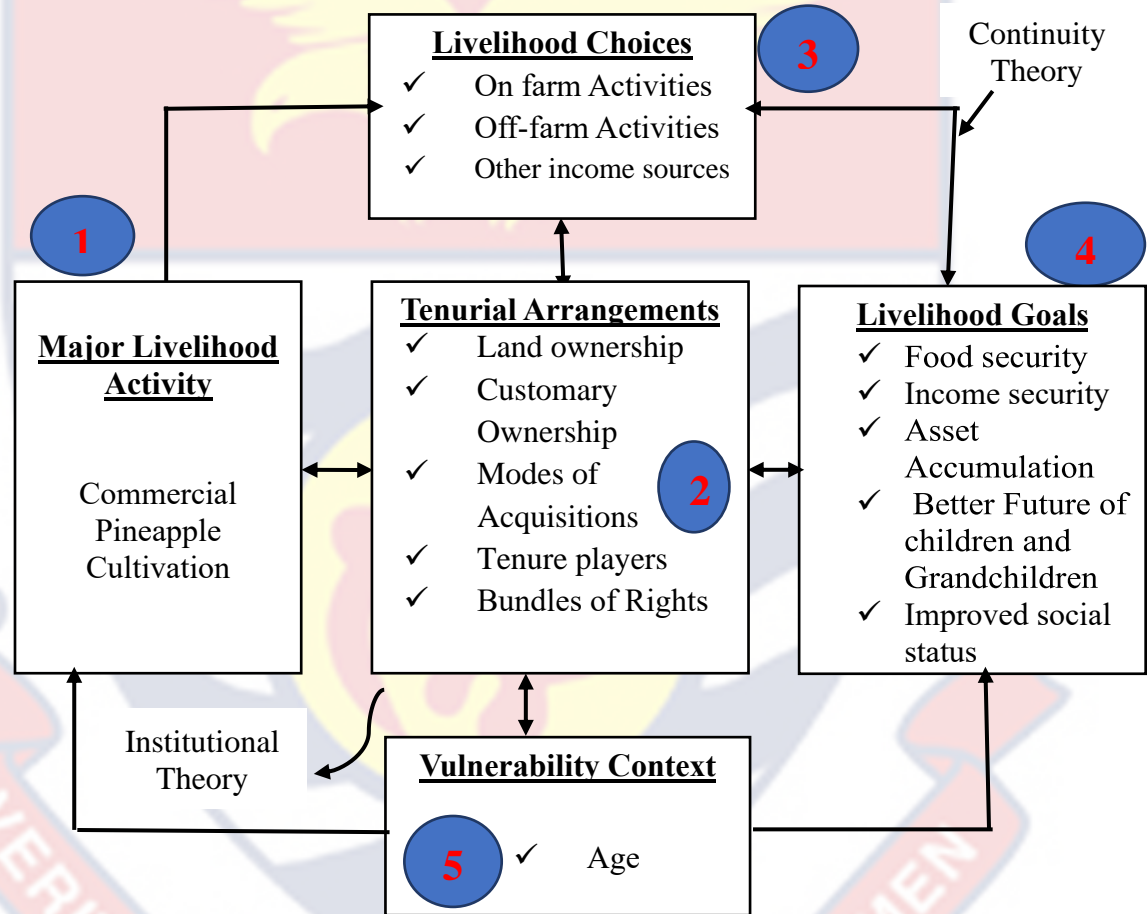
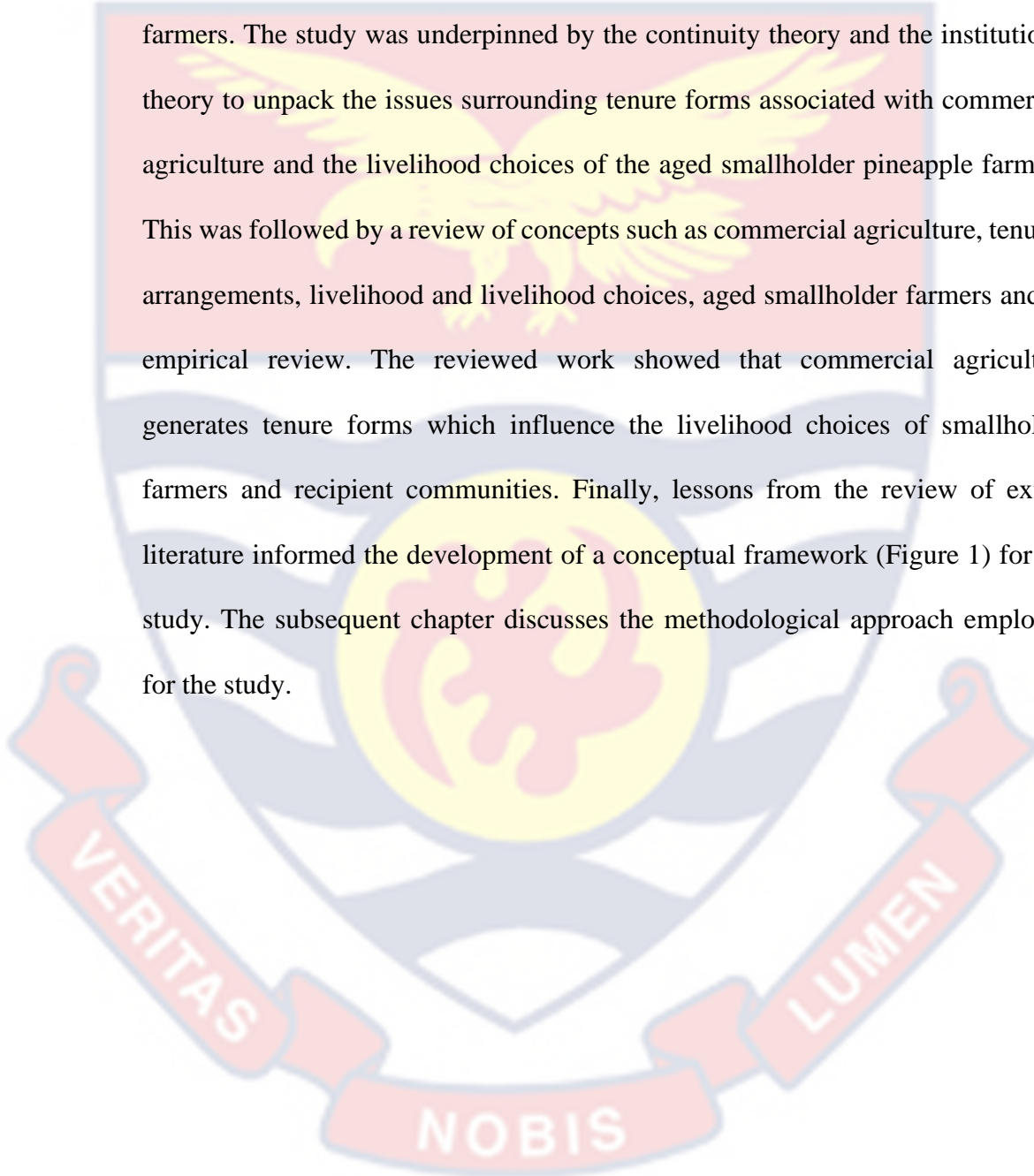


Figure 1: Conceptual Framework explaining how Commercial Agriculture and its Attendant Tenure arrangements Influence the Livelihood Choices of the Aged Smallholder Farmers

Source : (Yaro et al (2018) and Quaye et al (2014)

Chapter Summary

This chapter of the study dealt with the review of relevant and related literature on commercial agriculture and livelihood choices for aged smallholder farmers. The study was underpinned by the continuity theory and the institutional theory to unpack the issues surrounding tenure forms associated with commercial agriculture and the livelihood choices of the aged smallholder pineapple farmers. This was followed by a review of concepts such as commercial agriculture, tenurial arrangements, livelihood and livelihood choices, aged smallholder farmers and an empirical review. The reviewed work showed that commercial agriculture generates tenure forms which influence the livelihood choices of smallholder farmers and recipient communities. Finally, lessons from the review of extant literature informed the development of a conceptual framework (Figure 1) for the study. The subsequent chapter discusses the methodological approach employed for the study.



CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter focuses on the research methods employed to guide the study. Methodology in social research is vital because it offers the yardstick and directs the process of knowledge production (Patten & Newhart, 2017). For this study, the methodological approaches acted as conduits which directed the pursuit towards ascertaining how commercial agriculture and its attendant tenure forms influence the livelihood choices and the realisation of the livelihood goal of the aged smallholder farmers in the Ekumfi district. The chapter first discusses the research philosophy that undergirds the study followed by an examination of the research designs.

A description of the Ekumfi Nanabin was carried out to give a fair idea of the features that characterise the study area to forge an appreciation of the context within which the study was carried out. The target population, the sample and the sampling procedure, the data collection instruments and the data collection procedures are all discussed in this chapter. Additionally, the analytical procedure and tools employed to address the stipulated objectives are discussed in this chapter. The chapter further addresses the ethical issues that guided the study as well as the challenges that were encountered during the fieldwork.

Research Design

A research design connotes the general strategy employed to integrate

various segments of a study for a successful data collection, measurement, and analysis of the research problem (Morgan, 2017). The debate regarding research design shows how crucial a research strategy is for any knowledge production process. The argument for individualised paradigms such as positivism, interpretivism, and pragmatism among several others are premised on the rationale that both qualitative and quantitative research designs are founded on different ontological and epistemological conventions that work against convergence (Mohajan, 2018). The disparities in philosophical paradigms are reflected in the kind of questions, data collection procedures, the data instrument and how the stipulated objectives are defined. While researchers rationalise their research design based on the fundamental distinctions of ontology, epistemology and theory, there are discourses on mixed method design regardless of different ontological and epistemological stances (Sarantakos, 2012).

The study was grounded in the interpretive research philosophy which aims at understanding how members of a social group, through their participation in social processes, construct their particular realities and endow them with meanings and demonstrate how these meanings, beliefs and intentions of the members help to constitute their action. The epistemic position of interpretivism is that the researcher is the focal point of the research, and interprets data, therefore outcome cannot be objective because the studied reality is mediated by the researcher. The interpretive research paradigm is concerned with contextualized environments and recognizes that knowledge and reality are subjective (Bryman, 2012). Implying that knowledge and reality about a social

problem are determined by the social setting through reconciling the subjective perceptions, opinions, and feelings of the study subjects.

From the foregoing, the study adopted a qualitative research approach.

Qualitative methodological approaches are premised on varied theoretical principles that employ data collection and analytical methods that are not quantifiable (Maxwell, 2012). A qualitative research approach seeks to explore social relations and describe reality as experienced by participants allowing in-depth information to be obtained with higher flexibility and a more holistic and contextual analysis of the issue under consideration (Sarantakos, 2012). Aside from the forgoing strengths qualitative research approach is criticised for using a small sample size, being time-consuming and deficient in the generalisation of study findings, having problems of objectivity and the tendency of collecting unrelated information (Vasileiou et al., 2018). However, the critique that qualitative research lacks the power of generalisability unlike the quantitative counterpart is only admissible when the findings of a research sample are generalised to the parent population (Kalu & Bwalya, 2017). Qualitative research involves theoretical generalisation, where study findings are extrapolated to their theoretical application or generalised to another similar context (Hennink, Hutter & Bailey, 2020).

The selection of the qualitative research approach was premised on the assumption that the livelihood choices and livelihood activities of the aged are heterogeneous given their respective backgrounds. Thus, quantitative research approaches are deficient in unpacking social realities regarding how tenure forms

accompanying commercial agriculture influence livelihood choices from the perspective of the aged and other agrarian players. Lastly, to offer more contextual findings on how commercial agriculture and its attendant tenure forms influence the livelihood choices and the realisation of the livelihood goals of the aged.

The specific study design employed for this study was exploratory research. An exploratory study design aims at advancing knowledge about a social problem, usually when there is not enough information available about the research subject (Sarantakos, 2012). The exploratory study design is employed to examine a research problem which is not clearly defined to enable researchers to gain a better understanding and provide a conclusive finding. An exploratory design was deemed appropriate because it allows gaining insight into the tenurial arrangement surrounding commercial agriculture, how it influences the livelihood choices of the smallholder farmers, and the realisation of their livelihood goals. The exploratory study design helped employ existing theories to structure the study using the concepts that emerged from the theories to guide the data collection exercise and as well generate themes for the onward presentation of findings.

The study employed a theory-driven approach to ascertain relevant issues and interpretations that might not be identified with an inductive reasoning approach (Sarantakos, 2012). The deductive approach coupled with the theory-driven approach allowed the use of the concepts to evaluate existing theories instead of developing theories from the data gathered.

Study Area

The Ekumfi district is one of the twenty-two administrative districts in the Central region of Ghana. The district was established by a legislative instrument (L.I. 2170, 2012) and carved out of the then-Mfantseman Municipality due to its rapid population growth. To ensure effective administration and holistic development, Ekumfi which was then part of the Mfantseman municipality was inaugurated on 28th June 2012 as a district with Essarkyir as its capital. The broad development goal of the Ekumfi district is to achieve accelerated and sustainable growth and reduced poverty through effective collaboration with the private sector for agriculture transformation, human and institutional capacities development and job creation. According to the Population and Housing Census (PHC), (GSS, 2021), the district has a projected total population of 95,742 made up of 44,040 males and 51,703 females. The annual population growth rate of the Ekumfi district is (3.5%). There are fifty-five (55) communities in the district with Narkwa being the most densely populated community. This represents about (2.6%) of the Central region's total population.

Smallholder pineapple farming is the paramount export cash crop cultivated in the district alongside other vegetables with about (85.4%) of the households in the Ekumfi district engaged in agricultural activities as a source of livelihood (GSS, 2021). The ease of pineapple cultivation in the district is mainly due to favourable climate and soil conditions, abundantly cheap skilled and unskilled labour force relatively stable political environment. These conditions favour pineapple cultivation all year round in the district. Notably, out of the sixteen administrative

regions in Ghana where pineapple cultivation is viable, the Ekumfi district in the central region is the leading pineapple producer (MoFA, 2020).

Geographically, the Ekumfi district lies on the tropical equatorial climatic belt of Ghana with a double maxima annual rainfall of about 1200mm. The district is surrounded by towns including Otuum, Essarkyir, Narkwa, Abor, Akotsi, Essiam and Nanabin. The Ekumfi district occupies a total land area of 276.65 square kilometres or (0.12%) of Ghana's land area, making it the fifth smallest among the twenty-two districts in the Central Region. The district is bounded to the West by the Mfantseman Municipality, to the North by the Ajumako Enyan Essiam district, to the East by the Gomoa West district and to the South by the Gulf of Guinea. The ensuing Figure 2 shows the map Ekumfi district with the surrounding communities.

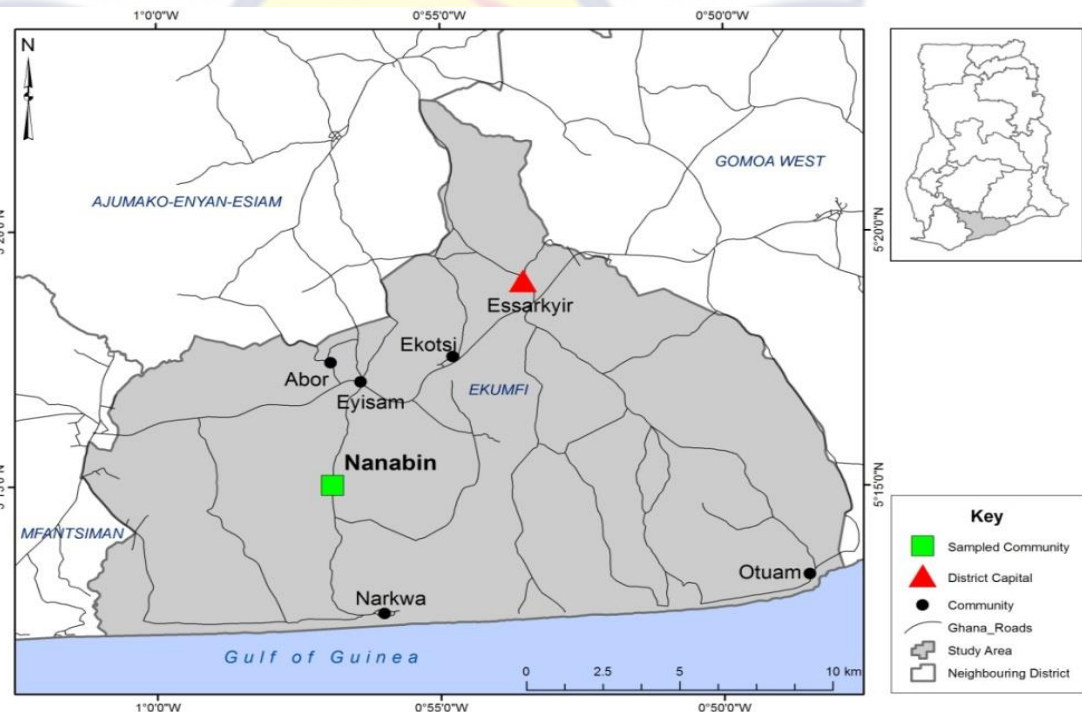


Figure 2: Map of Ekumfi District of Ghana Showing the Study Area (Nanabin)

Source: GIS Office (2022), Department of Geography and Regional Planning, UCC

The Ekumfi district hosts several pineapple producer groups such as the Adwendaho Organic Pineapple Producers and Suppliers (ACOPPS) and Adwumadzen ma Mpontu Organic Pineapple Producers Association (AMOPPA) organic pineapple producers, Ekumfi Fruits and Juices Company, limited, Enoo Muntaku Farms, AA Farms and several farmer cooperatives including, Blue Skies Farmer Cooperative among several others. These pineapple producer groups are divided over the cultivation of three main varieties of pineapple namely Smooth cayenne, Sugar Loaf and Millie Dillard pineapple or MD2 in the Ekumfi district. The cultivation of these varieties of pineapple by the producer groups depends on their production intents and whom they supply the pineapple fruits. Three out of the five sampled pineapple producer groups produced for the international market, while the remaining two produce to feed their respective factories locally. The succeeding Table 1 displays various varieties of pineapple and the intent for cultivating them among the pineapple producer groups in the district.

Table 1: Pineapple Producer Groups and the Market they Produce for

Pineapple Producer Groups Sampled	The market they Produce for	Sole Cultivation Intents
Ekumfi Fruits and Juices Company	Local market	Feed the Ekumfi Fruits and Juices Company
ACOPPS & AMOPPA organic pineapple producers	Local market	Sell to a processing factory in Nsawam-Addaeso
Enoo Muntaku Farms	International market	Export
AA Farms	International market	Export
Blue Skies Farmer Cooperative	International market	Export

Source: Field Work (2023)

For the present study, Ekumfi Nanabin was selected out of the aforementioned surrounding communities because the Ekumfi Nanabin community has been recognized as the hub of commercial pineapple cultivation compared to other surrounding communities in the Ekumfi district. This necessitated the establishment of the Ekumfi Fruits and Juices Company in the years 2019 as part of the one-district one-factory initiative. Ekumfi Nanabin is purely an agrarian community with a total population of about 2500 comprising (54%) (1350) males and (46%) (1150) females. The Ekumfi Nanabin community has about 200 farming households and 250 houses with an average family household size of 4.3 (Ghana Statistical Service, 2021).

The Ekumfi Fruits and Juices Company specialises in the manufacturing of locally made fruit juices such as mango, passion fruit, citrus pineapple and ginger from the Ekumfi district in the central region of Ghana. Ekumfi Fruits and Juices Company has created over 5000 direct and over 20,000 indirect jobs for the inhabitants in an attempt to alleviate poverty within the Ekumfi district. From its inception, the Ekumfi Fruits and Juices Company has secured over 12000 acres of land for pineapple cultivation, but cultivates only 4000 acres every year to fulfil its operational capacity and going concern motives as a company. Additionally, the company has a total of 450 pineapple out-growers across the surrounding communities in the district who feed the factory with their pineapple produce. The company occasionally buys pineapple fruits from other companies such as the Enoo Muntaku Farm, and AA Farms when the pineapple fruit yield does not meet the certification for export.

Study Population

The study population comprised both active and retired smallholder farmers aged sixty (60) years and above in the Nanabin community. Others were leaders of land-owning groups, managers of pineapple producer groups and the district agricultural officer in the Ekumfi district. The rationale for selecting this age category of farmers was to explore how tenure forms accompanying commercial agriculture influence the livelihood choices of the aged smallholder pineapple farmers in the Ekumfi district, Ghana. In the absence of an institutionalised social safety net, the aged smallholder farmers are left with no option to retire or disengage from agrarian livelihood, but to perpetually engage in agrarian livelihood regardless of their reduced physical strength to starve off poverty as the continuity theory alludes (Muruviwa, 2011). Access to land then acts as a traditional safety net in livelihood construction activities of the aged smallholder farmers such as pineapple cultivation including other crop diversification.

Given the heterogeneity in old age, the study engaged both the young aged (economically active) and the elderly aged (care receivers) to have full coverage of the aged structure of the Nanabin community. The leaders of land-owning groups, in most cases, are the traditional custodians or owners of agricultural land in the Nanabin community. The district agricultural officer helps farmers in their decision-making and ensures that appropriate knowledge is implemented to obtain the best results about sustainable production and general rural development. Managers of pineapple producer groups such as cooperatives/ companies form part

of the tenure agent or agrarian players competing for the available land in and around the district and Ekumfi Nanabin in particular.

Sample and Sampling Technique

For this study, a non-probability sampling technique was employed to select aged smallholder pineapple farmers and other agrarian players in the Ekumfi District. Specifically, purposive sampling techniques were employed, because the study is by nature concerned with generating more contextual and in-depth information on how commercial agriculture and its accompanying tenure forms influence the livelihood choices of the aged from a designated study participant (aged smallholder farmers and other agrarian players). Purposive sampling is the fulcrum around which all qualitative sampling revolves was employed to identify spaces and offered an opportunity to select participants of diverse interests. Given the considerable varieties of purposive sampling techniques, the study employed the maximum variation and expert sampling to respectively select aged smallholder pineapple farmers and other key persons (tenure players) such as the leaders of land-holding families, managers of pineapple producer groups and district-agricultural officers.

The maximum variation sampling technique allowed inclusion of wide range of perspectives and exploration of diversity or the impact of different conditions on the livelihood choices of aged smallholder pineapple farmers. While some older people are amongst the most vulnerable and socially disadvantaged and incapable, others might have accumulated resources that enable them to pursue numerous and enterprising livelihood choices to maintain their well-being in old

age. The criteria for selecting the aged smallholder pineapple farmers included pineapple farmers within the age range of 60 years and above, and cultivate not less than two acres of pineapple farm. Other variation covered includes the market the aged smallholder farmers produce for as well as the sort of working relationship they have with their respective buyers, their income levels, modes of land access among others.

The foregoing established criteria allowed for the identification the extremes or the endpoints of these criteria within the aged smallholder pineapple farmer population. The application of maximum variation sampling in selecting aged smallholder pineapple farmers in Ekumfi District not only highlight the commonalities and differences in their experiences but also provide a nuanced understanding of how various factors intersect to influence their agricultural practices and livelihood choices. This approach acknowledges the complexity of human experiences and the value of capturing this complexity to inform more effective and targeted support mechanisms. The results of the purposive sampling technique were captured in the ensuing Table 2.

Table 2: Result of Purposive Sampling of Aged Smallholder Farmers

Sex and Age of ASHPFs	Active (N=10)	Retired (N=5)	Total (N=15)
Sex			
Male	6(60)	3(60)	9(60)
Female	4(40)	2(40)	6(40)
Age			
60-69years	6(60)	1(20)	7(46.7)
70-79years	4(40)	2(40)	6(40)
80+ years	0(0)	2(40)	2(13.3)
Total	10(100)	5(100)	15(100)

Source: Field Work (2023)

The study sampled (60%) male aged smallholder pineapple farmers and (40%) female aged smallholder pineapple farmers between 60 to 82 years. Almost forty-seven per cent of the participants were between the ages of 60 to 69 years. Another 40 per cent of the aged smallholder farmers were within the age bracket of 70 to 79. A little over 13.3 per cent of the retired smallholder pineapple farmers were between 82 years and above. Other key persons such as the leaders of land-owning groups, the district director of agriculture and managers of pineapple producer groups (cooperatives/companies) were selected using expert sampling techniques.

Expert sampling is a type of purposive sampling technique that is used when the study requires assembling knowledge from key persons who have particular expertise in a particular field (Etikan & Bala, 2017). The selection of the key persons for the study was guided by the knowledge and experience of persons regarding how the tenure forms accompanying commercial influence investment influence the livelihood choices of the aged smallholder farmers. The selected agrarian players were deemed proficient in providing valuable insights into the root of how tenure arrangement influences the livelihood choices of the aged smallholder farmers as well as the future trends to watch out for. The only difficulty is how to identify and gain the cooperation of genuine experts through interviews. Also, due to the deficiencies in both the maximum variation and expert sampling in the identification of study participants, the exponential discriminative chain referral sampling (snowballing) was employed to identify participants (aged smallholder pineapple farmers and other agrarian players) for the study to minimise the problem

associated with gatekeeping in snowball sampling. To avoid gatekeeping issues, the first recruited participants be they aged smallholder farmers or agrarian players were made to provide multiple referrals. The researcher then sieved the multiple referrals made by the participant and selected those who fit the predetermined criteria to engage in the study.

The determination of the actual sample size for the study was premised on the concept of saturation because the study had no prior data on the number of aged smallholder pineapple farmers and other agrarian players operating in the Ekumfi district. Since the concept of saturation is not concerned with numbers, it allowed the collection of data to a point where no new insight comes up. In this regard, the researcher adds to the sample as many as possible until no new insights emerge regarding the stipulated objectives the study sought to explore. Bearing the rule of thumb regarding the concept of saturation in mind, data management and interviews were carried out simultaneously.

The study covered a total of twenty-seven (27) individual interviews. The actual number of participants engaged (sample size) was determined upon attaining saturation during the data collection exercise at Ekumfi Nanabin and the respective other sampled groups. The sample size comprised two retired female smallholder pineapple farmers, three retired male smallholder pineapple farmers, four active female smallholder pineapple farmers, six active male smallholder pineapple farmers, and six leaders of land-owning groups were interviewed. In addition, five managers of pineapple producer groups (cooperatives/ companies) and one representative from the district agriculture office (director/officer).

Data Collection Instruments

Empirical data on commercial agriculture and livelihood choices of the aged smallholder pineapple farmers were gathered through in-depth interviews, key person interviews and non-participant observation. The use of these methods was informed by the fact that qualitative research in itself is inherently multi-method in focus. Thereby allowing the researcher to probe and ascertain comprehensive information on commercial agriculture and livelihood choices of aged smallholder farmers. The exploratory study must be creative, open-minded, flexible and adopt an investigative stance to explore all sources of information (Khan, 2014). The use of interviews offered the opportunity to ask questions and probe issues hitherto not considered in the instrument. The use of in-depth interviews and key person interviews served as a measure of validation of responses from the aged smallholder with that of other agrarian players.

An unstructured interview guide and an observational guide were employed in collecting the data for the study. The unstructured interview guide was used to elicit responses from both the aged smallholder farmers and other agrarian players. The unstructured interview guide for the aged smallholder farmers comprised five separate sections. The first section focused on the personal characteristics of participants, the second section captured issues on tenure arrangements, and the third section addressed questions regarding the livelihood activities of the aged. The fourth section captured issues about the livelihood goals of the aged. The final section contained questions on the influence of tenure arrangements on the

livelihood choices of aged smallholder pineapple farmers (Details of the instrument are captured in Appendix I).

The unstructured interview guide for key persons such as the leaders of the land owing family, the manager of the pineapple producer group and the district agricultural director contained questions on the tenurial arrangement regarding the use of land for commercial agriculture purposes in the Ekumfi District. Since interviewing alone cannot wholly capture information on the livelihood activities of the aged smallholder farmers, an observational guide was used to supplement the information elicited through the interview guide for the livelihood activities observation (see Appendix II).

Data Collection Procedure

The actual data collection exercise for this study lasted for three weeks (thus, commenced on 26th April 2023 and ended on 14th May 2023). Before the scheduled date for the actual fieldwork, a days' visit would be made to the study Community. The community entry was initiated to communicate the intent to the target population, establish rapport and get familiar with the laid down protocols for undertaking such exercise in the community. An introductory letter issued by the Department of Integrated Development Studies detailing the purpose of the study was sent to the traditional authorities of the Nanabin community and authorities of other sampled entities on the second-day visit. A convenient date and time for the actual data collection exercise were mutually agreed upon on the second-day visit to the Nanabin community.

The overall intent of the study was thoroughly explained to the participants to seek their consent before proceeding with the conduct of the actual interviews. Most interviews with the aged smallholder farmer and leader of land-owning groups were conducted in the local language (Twi and Fante) while interviews with managers of pineapple producer groups and the district director of agriculture were conducted in English. This enabled participants to understand the questions being asked and express their opinions and feelings thoroughly and confidently. Follow-up questions were asked to prompt, probe and seek further clarity on some issues where appropriate. The in-depth interview was audio-recorded with the permission of the participants. However, where permission to record or video the interview session is denied, notes were taken of the interview proceedings.

An unstructured interview guide and a non-participant observation guide were used for the study. Due to the limited information on commercial agriculture and livelihood choices discourses in the Ekumfi district, the unstructured interview was conducted first to allow for the coverage of in-depth information on the phenomenon. The expert interview began with agrarian players such as the leaders of land-owning groups, the district agricultural director, and the managers of pineapple producer groups to gain more insight on the commercial agriculture and livelihood discourses to pave the way for the conduct of interviews with the aged smallholder farmers. The sampled agrarian players informed the inquiry through their knowledge, experience, and expertise in the area of commercial agriculture, tenure forms and livelihood choices. The key person centered on the tenurial arrangements that surround the use of land for commercial agriculture purposes in

the Ekumfi district. This offered in-depth knowledge regarding land ownership access, the key actors and the pattern of land use in the district. The interviews with key agrarian players lasted an average of 25-30 minutes per participant.

The aged smallholder farmers' interviews and observations were done concurrently. The interview was conducted in their place of household and places of economic activities such as the farm, and shop among others to allow for observation as well. The interviews with aged smallholder pineapple farmers focused on the land tenure arrangements and their influence on the livelihood choices of the aged. Aged smallholder pineapple farmers were asked the kind of livelihood choices they have pursued as a result of the tenure arrangements accompanying commercial agriculture in the district (See Appendix I). And the influence of the tenure arrangements on their livelihood choices and how that enables them to realize their livelihood goals. This was done to ascertain what the aged smallholder farmers have been doing for their survival amid the absence of pensions and decreasing family support. The interview session with the aged smallholder farmers lasted between 40 and 50 minutes.

The activities of the aged smallholder farmers were observed concurrently with the in-depth interview session using a non-participants observation guide (See Appendix II). The observation allowed for direct experiences compared to the interviews and helped clarify the context in which the aged smallholder farmers construct their livelihood given the portfolio of livelihood activities (both farm and off-farm) pursued. To keep track of relevant observations, the researcher

documented all relevant observations made in a field notebook. An hour was devoted each day to watching participants go about their livelihood activities.

Data Management

Empirical data for this study were gathered through audio recordings, note taking and non-participant observation. The determination of the actual sample size was premised on the concept of saturation which indicates that data collection should cease when no new insight emerges regarding the phenomenon under study. Observing the rule of thumb of the concept of saturation, data management was carried out simultaneously with the data collection exercise. Data transcription, coding, and organising data were carried out at the end of each day to help generate and identify recurring themes. To overcome the difficulties in transcribing lengthy interviews during the fieldwork, notes taken during the gathering exercise were used to supplement the audio recordings.

The responses gathered each day were compared with the transcribed data to observe the emerging similarities in themes. The data collected onto the electronic device were secured with a password to prevent external access and uploaded into a Google Drive as backup storage to safeguard data throughout the research period. Information gathered was kept under strict storage secured with a password until the final approval and submission of the final thesis to the graduate school. The interview guide and other notes taken during the interviews were burnt, while the interview recordings were deleted permanently from the audio recorder upon submission of the final thesis. It must be noted that the data collection methods

field notes, audio recordings and non-participant observations employed for the study were environmentally friendly.

Data Processing and Analysis

The analysis of qualitative data can be carried out manually and electronically using varied analytical software such as NVivo, Nudist, Saturate and Atlas among others. However, for this study, the organisation and analysis of the gathered data was done manually. Analysing the data manually allowed for more control of the interpretation process and assisted in identifying patterns, trends, outliers, and anomalies that might be missed by automated methods. Empirical data was managed at every stage of the research process. However, the analysis of the data commenced with verbatim transcriptions of individual and key person interviews, notes taken and observations made from the field. All interviews or narratives in the local language (Twi and Fanti) were fully transcribed into English. To familiarise and gain a general overview, the gathered data was thematised in line with the objectives and operational concepts in the conceptual framework and cognisance of key tenets of the underlying theories.

Coding for the data was carried out in three phases. The first phase is the open coding, the researcher went through all the data per participant line by line looking for specific concepts such as tenure arrangement, livelihood activities, and livelihood goals. At the axial coding phase, codes generated from the open coding were used to identify similarities and differences in the data coded for synchronisation purposes. This was done to ensure congruence between each of the data sources at different endpoints. Selective coding was carried out to develop

categories for the analysis. Here, selected themes belonging to broader thematic areas such as tenure arrangement, livelihood choices, livelihood goals as well as the influence of tenure forms on livelihood choices were grouped under one major theme to ease the discussions of the study objectives. The discussion of findings was prepared around the following themes, tenure arrangement, livelihood activities, livelihood goals and the influence of tenure arrangements on the livelihood choices of aged smallholder farmers in the Ekumfi District. Finally, direct quotes from a participant were used to buttress the claims advanced for each objective.

Trustworthiness

Trustworthiness relates to how the integrity of a qualitative study outcome is enhanced. It entails credibility, transferability, audibility and confirmability of a qualitative knowledge production process (Creswell & Miller, 2000). To ensure the trustworthiness of the study outcome, a prior visit was made to the Ekumfi Nanabin to discuss the intent of the study with the local authorities and other sampled groups for such exercise in the community. This is done to establish rapport acquaint the researcher with laid down protocols and as well avoid unreceptive and hostile attitudes from the community and the study participants. The study employed chain referral sampling to identify participants and minimise the problem associated with gatekeeping in snowballing as well as correct the deficiencies in maximum variation and expert sampling techniques adopted.

Ensuring the credibility of a qualitative study outcome entails processes like journal keeping and data triangulation among others. A proper journal was kept

regarding thoughts, feelings and experiences of aged smallholder farmers regarding how commercial agriculture and its attendant tenure forms have influenced their livelihood choices and the realisation of their livelihood goals. Similarly, thoughts and experiences of other agrarian players such as leaders of land-owning families, managers of pineapple producer groups and the district agriculture officer were sought reading the tenure arrangements surrounding commercial agriculture in the district to validate the claims put forth by the aged relating the theme. The data gathered was triangulated through multiple sources of responses from the aged smallholder farmers and other agrarian players through the use of different data gathering instruments (interview guide and non-participants observation guide) to enrich the study outcomes.

Auditability in qualitative research relates to the ability to trace the process and outcome from the data collection to the analysis and interpretation. In ensuring the audibility of the study processes and outcomes, direct quotes from participants, and excerpts from the in-depth interviews were used to support claims and interpretations of the study findings. Transferability relates to the extent to which the results of a study are relevant and applicable to their contexts based on rich and thick descriptions and interpretations. Transferability of the study findings was ensured by providing a detailed overview of Ekumfi Nanabin and the background, and characteristics of the study participants. The study variables such as commercial agriculture, tenure arrangements livelihood choices were operationalised and linked to the theoretical underpinnings of the study.

Reflexivity

Reflexivity has to do with a thoughtful consideration of how the researcher's standpoint can influence the knowledge production process. The main rationale for conducting this study is to partial fulfilment of an MPhil degree in development studies and to contribute to the body of literature on commercial agriculture and livelihood choices particularly from the aged perspective. In addition, a being purely agrarian community and being privy to some of the information regarding the use of land for commercial agriculture purposes were significant events that influenced the choice of the study subject.

The absence of agreement around how agricultural investment influences the livelihood choice of aged smallholder farmers and the recipient community of these investments pushes the narratives more on the side of those suggesting that it is mutually beneficial. To overcome any bias emanating from this agrarian background, second and third parties were contracted to listen to and transcribe all the audio recordings after the interview with participants. This was done to rid the data of personal predispositions and also consider a different view on the information collected that might have been ignored without third-party scrutiny.

Ethical Issues

Before the data collection, all conventions regarding field work such as an introductory letter were obtained from the Department of Integrated Development Studies, School for Development Studies, University of Cape of Coast to legitimise the permission for the collection of primary data at the Nanabin community. An ethical clearance letter detailing the purpose of the study was sought from the

Institutional Review Board (IRB) of the University of Cape Coast and served to the local authorities of the Nanabin community and offices of other agrarian players for their approval before the actual data gathering commenced.

Informed consent was sought from all the study participants before proceeding with the conduct of the interviews. Participants were made aware that participation was voluntary and not monetised. For that matter, participants could decline to answer any question they felt uncomfortable responding to and withdraw from interviews without any sanctions. Participants who consented to take part in the study were assured of anonymity and confidentiality of the information supplied for the study. To ensure anonymity, identifiable codes were employed instead of real names of participants and kept de-identified data separate from the coding list to prevent tracing data back to a particular participant. The confidentiality of the study participants was upheld by ensuring that issues that emerged from the interviews were not discussed with others in a manner that made participants identifiable. The in-depth interviews were held at places that were convenient for the participants and the researcher as well. To protect the facial identity of the participants, pictures and videos were not taken.

To ensure justice in the selection of study participants, the study engaged both the young aged (economically active) and elderly aged (care receivers) smallholder farmers (male and female) to prevent gendered skewed data by employing gendered snowballing and as well as ease the difficulties in identifying and reaching the study participants (aged and other agrarian players). To ensure beneficence, caution was applied in the manner and the framing of questions

administered during the interview in order not to awaken past grief and distort the previous mood of the study participant before and after the conduct of the interview. Finally, empirical data were reported as found from the participants without manipulation.

Chapter Summary

This chapter dealt with the methodological approaches and philosophical perspectives employed to address the stipulated study objectives. The study employed a qualitative research design coupled with an exploratory study design underpinned by the interpretive research paradigm due to the nature of the social problem the study sought to investigate. Non-probability sampling techniques specifically, the maximum variation, expert sampling and snowballing were employed to select study participants. In-depth interviews and non-participant observation guides were employed as primary data collection instruments to gather data from the participants. The chapter offered insights into how the data was analysed and elaborated on the challenges encountered by the researcher during the data gathering. The in-depth interviews were transcribed and analysed thematically in line with the stipulated objectives of the study. The subsequent chapter presents the results and discusses the findings of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The chapter reports findings and discusses how aged smallholder farmers negotiate their livelihood choices in the face of changing tenure forms accompanying commercial agriculture based on the conceptual framing, theoretical underpinnings and research objectives that guided the study. The first section of the chapter focuses on the demographic characteristics of the participants. The rest of the chapter addresses the four major themes derived from the research objectives, which are tenurial arrangements regarding the use of land for commercial agriculture, livelihood activities undertaken by the aged smallholder pineapple farmers, and livelihood goals of the aged smallholder pineapple farmers. Finally, the chapter analyses the influence of the tenurial arrangements on the livelihood choices of aged smallholder farmers.

Background Characteristics of Aged Smallholder Pineapple Farmers

This section of the study provided an account of the general characteristics of the aged smallholder pineapple farmers who participated in the study in the Ekumfi district taking into consideration their level of education, marital status, household size, place of birth, length of stay in the community, where previously lived, previous employment, why living in the community, residential status, as well as the acres of land owned. The background characteristics of the study participants are captured in Table 3.

Table 3: Background Characteristics of Aged Smallholder Pineapple Farmers

Variable/ Attributes	Active Smallholder Farmer (N=10) (66.67%)	Retired Smallholder Farmer (N=5) (33.33%)	Total (N=15) (100%)
Level of Education Attained			
Never been to School	6(60)	3(60)	9(60)
Dropped Out	2(20)	1(20)	3(20)
Middle School (MSLC)	2(20)	1(20)	3(20)
Marital Status			
Married	4(40)	1(20)	5(33.3)
Widowed	5(30)	4(40)	9(60)
Divorced	1(10)	0(0)	1(6.7)
Household Size			
1-5	3(30)	1(20)	4(26.7)
6-10	4(40)	3(60)	7(46.7)
11 and more	3(30)	1(20)	4(26.7)
Place of Birth			
Nanabin	6(60)	3(60)	9(60)
Elsewhere	4(40)	2(40)	6(40)
Length of Stay in Nanabin			
All my life	3(30)	3(60)	6(40)
20-29years	1(10)	0(0)	1(6.7)
30-39years	2(20)	0(0)	2(13.3)
40-49years	3(30)	0(0)	3(20)
50+years	1(10)	2(40)	3(20)
Previous Employment			
Farming	4(40)	2(40)	6(40)
Trading	2(20)	1(20)	3(20)
Artisan	4(40)	2(40)	6(40)
Residential Status			
Native	6(60)	3(60)	9(60)
Migrant	4(40)	2(40)	6(40)
Why Living in Nanabin			
Hometown/ Raised Here	4(40)	3(60)	7(46.7)
Marriage/ Farming	6(60)	2(20)	8(53.3)
Total	10(100)	5(100)	15(100)

Source: Field Work (2023)

Of the 15 participants engaged in the study (66.7%) were active smallholder pineapple farmers, while (33.3%) were retired aged smallholder

pineapple farmers. The highest educational level of the aged smallholder pineapple farmers covered in the study was that the majority of nine (60%) had no years of schooling. Half of the remaining six participants either dropped out of school three (20%) or attained a middle school leavers certificate three (20%). About two-thirds or (60%) were widowed. A little above one-third of (33.3%) were married. The remaining (6.7%) specifically of the active smallholder pineapple farmers were divorced. About nine (60%) of aged smallholder farmers did not have partners who could offer any form of help to them thereby limiting their livelihood choices even if they had children. About 46.7 per cent of the aged smallholder pineapple farmers covered in the study had 6-10 household sizes. Specifically, (60%) of retired smallholder farmers had household members ranging between six and 10, while (30%) of active smallholder farmers had household members ranging from 11 and more. The aged smallholder pineapple farmers lived in households above the national average.

The study inquired about the previous employment of the participants to ascertain the nature of work they had done before venturing into agrarian livelihood activities. This is because the previous employment of participants tends to influence the kind of livelihood choices they make towards their survival in old age. About six (40%) of the participants were into farming and artisan work respectively, while a considerable number of three (20%) or a fifth of the participants were into petty trading before venturing into pineapple cultivation (agrarian livelihood). None of the participants had engaged in any formal work.

The place of birth of the participants was considered to ascertain where participants were born before relocating to the Nanabin community. Out of the 15 aged smallholder pineapple farmers interviewed, 60 per cent were born in the Nanabin community. The remaining 40 per cent were born elsewhere. Forty per cent of the participants had stayed in the Nanabin community all their lives. A fifth or (20%) of the participants had stayed in the Nanabin community for 40 to 49 years, and 50 years and more respectively. A little above a tenth or (13.3%) had stayed in the community for 30 to 39 years.

The results show that almost all the participants had lived most of their active working years in the Nanabin community for quite a longer time ranging from 20 to 60 and above years. The majority (60%) of the participants were natives, with the remaining 40 per cent being migrants. Concerning where participants had previously lived, another nine (60%) of the aged smallholder farmers had lived elsewhere before relocating to the Nanabin community, while the remaining (40%) of the participants had never lived elsewhere. The study further enquired about participants' motives for living in the Ekumfi Nanabin community. More than half (53.3%) of the participants were living in the study community because of farming and marriage. Nearly half of the participants (46.7%) were raised in the study community and there is no better place to be than one's hometown. That is the desire to maintain their identity in the Nanabin community and enjoy the informal social support systems that come with it as captured in Table 4.

Table 4: Acres of land Committed to Pineapple Cultivation and Other Crops

Sex	Farmer Category	Total Acres Owned	Mode of Access	Acres Used for Pineapple Cultivation	Acres Used for Other Crops	Tenure Duration	
Female	Active1	5	Indirect	2	3	2yrs	
	Active2	5	Direct	3	2	N/A	
	Active3	5	Direct	3	2	N/A	
	Active4	4	Direct	2	2	N/A	
	Retired 1	3	Direct	-	-	N/A	
	Retired 2	2	Direct	-	-	N/A	
	Male	Active 1	5	Direct	3	2	N/A
		Active 2	5	Direct	4	1	N/A
Active3		5	Direct	4	1	N/A	
Active4		7	Indirect	5	2	2yrs	
Active5		5	Indirect	3	2	2yrs	
Active6		7	Indirect	4	3	2yrs	
Retired 1		3	Indirect	-	-	2yrs	
Retired 2		5	Direct	-	-	N/A	
Retired 3		4	Indirect	-	-	2yrs	
Total Acres		70		33(47.1%)	20(28.6%)		

Source: Field Work (2023) N=15

Acres owned by retired smallholder =19, Acres owned by active smallholder =53

The number of acres of farmland owned by the active-aged smallholder pineapple farmers is part of the background characteristics. The proportion of farmland utilised for pineapple cultivation as against the portion committed to other crop cultivation. A total of seventy acres of farmland were owned by aged smallholder farmers engaged. The retired smallholder farmers owned 17 acres of land, while the active smallholder farmers owned 53 acres of land. Of the total acreage ownership, a fifth (20%) of smallholder farmers covered in the study owned between two to three acres. Two-thirds (66.67%) owned four to five acres of land, while a little above a tenth (13.3%) owned seven acres of land. About 33(47.1%)

of the fifty-three acres of land owned by active-aged smallholder farmers have been committed to pineapple cultivation, while 20(37.7%) acres of land have been committed to other crop diversification activities. The remaining 17 (24.3%) or nearly a quarter of farmland owned by the retired aged smallholder farmers have neither been committed to pineapple cultivation nor other crop diversification activity.

In terms of the sex distribution of acreage owned the female-aged smallholder farmers owned 24 acres of the total acres, while the male smallholder farmers owned 46 acres. The active female aged smallholder farmers have committed 10acres and 9acres to pineapple cultivation and other crop cultivation respectively. The male-aged smallholder farmers have also committed 22 acres and 11 acres to pineapple cultivation and other crop cultivation respectively. The mode of acquisition of these acres was either through direct access (through lineage) or indirect access (lease). Nine of the aged smallholder farmers covered in the study accessed their farmland through direct access (through lineage), while the remaining six had their land through indirect means (lease agreement). The ensuing section details how these socio-demographic characteristics of the aged smallholder pineapple farmers play out in their livelihood choices and livelihood goals amid changing tenure forms accompanying commercial agriculture.

Tenurial Arrangements Surrounding Commercial Agriculture in the District

The first objective of the study was to examine the tenurial arrangements regarding the use of land for commercial agriculture. From the conceptual framework (Figure) tenurial arrangement explains the relationship, whether legal

or customary established among individuals, or groups, concerning land acquisition, its development, and management. As pointed out by the institutional theory, inherent in the tenure systems is the institutional framework (statutory and customary) which explains how land rights are administered and behaviour are to be regulated within a given community. Although Ghana operates a pluralistic land tenure system, each land administration is governed by different forms of rules and laws enacted by the governing authorities. Legally, all land in Ghana is vested in the State with the power to appropriate land anywhere in the country for developmental purposes upon payment of adequate compensation to the traditional land-holding groups. However, land is mainly regulated by customary rather than statutory laws. The foregoing information guided the analysis of the tenurial arrangements regarding the use of land for commercial agriculture in the Ekumfi district. This section, therefore sheds light on land ownership, varied modes of land access, tenure players, and land rights that surround the use of land for commercial agriculture in the Ekumfi district.

Land Ownership

From the expert interview it came to light that lands in the Ekumfi district were customary lands (stool and family ownership) and private ownership. The privately owned lands belong to pineapple producer groups and other farmer cooperatives operating in the Ekumfi district. An in-depth interview revealed a total of 15,750 acres of land owned by pineapple producer groups and farmer cooperatives in the Ekumfi district. These companies have 32.32 per cent (5,090 acres) of the total land

owned committed to pineapple cultivation the remaining 67.68 per cent (10,660 acres) is left to be tilled through land rotation practices. (Figure 3).

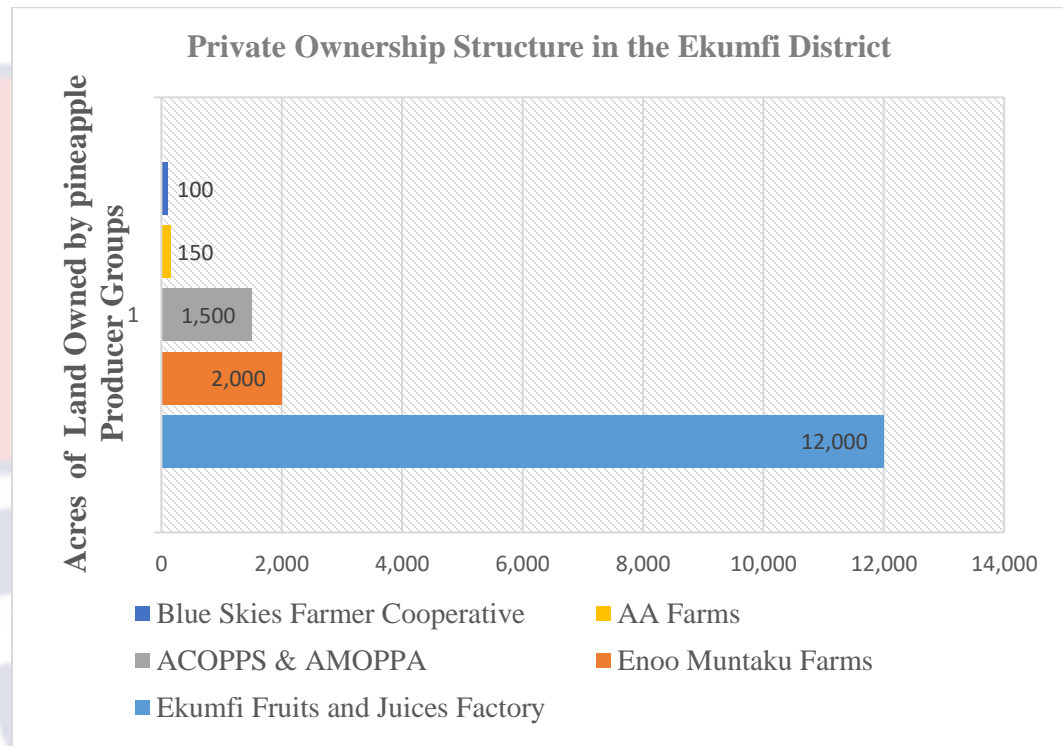


Figure 3: Private Land Ownership Structure in the Ekumfi District

Source: Field Work (2023)

The next variant of land ownership prevalent in the Ekumfi district is the stool land. The member of stool owning group happens to be people whose great ancestors settled and traversed in hunting, seeking shelter for peace, productive land for farming and in the Ekumfi Nanabin and its environs. The head of the stool-owning group administers all the land bequeathed to the stool in trust and on behalf of the members. The head of the stool-owning group has the right attached to the absolute interest to share portions of the affiliate of the stool. Members of the stool-owning group enjoy a non-transferable and the highest proprietary title (allodial title) to the land.

The most prevalent variant of customary land ownership scattered over the Ekumfi district was clan or family ownership. These land-owning groups do not recognise stool as a symbol of communal land ownership. The majority of the participants unveiled that, lands owned by respective families in the Ekumfi district and Nanabin in particular outnumbered those owned by stool. The sustenance of commercial agriculture in the Ekumfi district occurs more under the ambit of customary land ownership because family lands are not subjected to extensive government regulatory mechanisms. A key person during an interview disclosed the customary land ownership structure to the effect that:

In this district, about 80% of the available lands are owned by land-holding families (Clan), and those owned by the Chiefs (stool) account for about 20% of the lands in the district (Leader of Land Owning Group 3, 27th April 2023, Nanabin)

The ensuing pie chart offers a visual representation of the customary land ownership structure in the Ekumfi district (Figure 4).

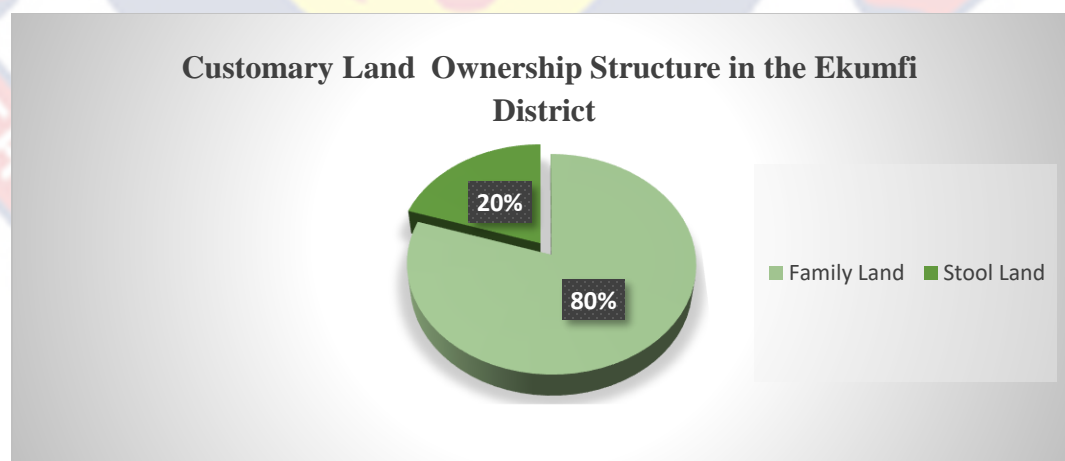


Figure 4: Customary Land Ownership Structure in the Ekumfi District

Source: Field Work (2023)

Mode of Land Access

Under the ambits of customary land tenure systems, where freehold land acquisition is outlawed. How land is accessed and used has far-reaching implications for livelihood choices and the overall realisation of the livelihood goals of the aged farmers in rural communities. As alluded to by the continuity theory, for most aged in a developing country, disengagement from agrarian livelihoods and other income-generating activities is impossible due to the absence of an institutionalised social safety net for the aged. Access to cultivable land plays a critical role in the livelihood construction activities of aged smallholder farmers. For this reason, the study explored the various modes through which the aged smallholder farmers access to land for agrarian livelihood construction activities such as pineapple cultivation in the Ekumfi district. Participants disclosed that they have access to land through either lease or direct access depending on whether one is an indigene or a migrant or aligns with a land-owning family in the Ekumfi Nanabin community. The disparities in the mode of land acquisition were attributed to the social-economic and cultural understanding of society captured in Table 5.

Table 5: Direct Mode of Access against some Background Characteristics of Participants

Sex	Farming Status	Mode of land Access	Marital Status	Age Range	Residential Status	Number N=9
Female	Active1	Direct	Widow	63yrs	Indigene	1
	Active2	Direct	Married	60yrs	Indigene	1
	Active3	Direct	Widow	61yrs	Indigene	1
	Retired 1	Direct	Widow	82yrs	Indigene	1
	Retired 2	Direct	Widow	69yrs	Indigene	1
Male	Active 1	Direct	Widower	70yrs	Indigene	1
	Active 2	Direct	Married	72yrs	Indigene	1
	Active 3	Direct	Widower	63yrs	Indigene	1
	Retired 1	Direct	Widower	78yrs	Indigene	1

Source: Field Work (2023)

The direct mode of land access was explored by aged smallholder farmers who trace their lineage to land-holding families in the Nanabin community. Nine out of the 15 sampled smallholder farmers between the ages of 60 and 82 years accessed their farmland through the lineage system (family membership). Three of the nine sampled aged smallholder farmers were actively engaged in farming as a source of livelihood, while the remaining three had retired from farming. These farmers were either married, widowed or widower. Specifically, seven of the nine sampled aged smallholder farmers were widowed, and the remaining two were married.

The mode of land acquisition granted through direct access accorded aged smallholder farmers the rights to access, control and transfer. Both female and male-aged smallholder farmers who accessed their farmland directly from their matrilineal lineage had the right to use and determine who could use the land but

enjoyed limited transfer rights. The male-aged smallholder farmers unlike their female counterparts had limited rights when it comes to transferring land and the kind of crops to cultivate. Although members of the landholding group, both female and male-aged smallholder farmers have limited rights when it comes to selling and gifting their portion of the directly accessed land to non-members because of the tendency to switch ownership and deprive other matrilineal subjects' direct access to family land in the future.

Under the direct system of land access in the Ekumfi Nanabin, the female-aged smallholder farmers had an edge over male-aged smallholder farmers when it comes to access and the control of clan land. However, just as the male-aged smallholder farmers of the land-holding group are barred from transferring their land to children and wives, but to close relatives such as nephews and nieces of the maternal sister if there is no direct brother. The direct access to land equally prevented female-aged smallholder farmers from transferring their portion of family land to children if they marry outside the matrilineal family because children from her marriage are seen as non-members of the land-holding family. The reverse holds for the male-aged smallholder farmers of the land-holding group who marry on patrilineal lines.

Under the lease arrangement, the aged smallholder pineapple farmers both migrant and non-members of landholding groups have to approach the land-owning group whose land they desire to access for the pineapple cultivation. The head of the family in consultation with the principal elders of the family will assign boundary cutters to escort the farmer to the land to assess the suitability of the land

for the intended purpose (pineapple cultivation). If the farmer is satisfied with the suitability of the soil for the purpose, he/she is made to pay the lease amount for the land. Thereafter, the sub-chief or family head sends boundary cutters to demarcate the number of acres requested by the farmer. The stool head or the head of the family then charges the tenant farmer an amount of money known as “Nnsa Sika” the payment of which grants the farmers full access to the land over the tenure duration mutually agreed upon with witnesses from both sides. No formal documents are prepared to cover such an acquisition. The indirect mode and some background characteristics of the respondents are captured in Table 6.

Table 6: Indirect Mode of Access against some Background Characteristics of Participants

Sex	Farming Status	Mode of land Access	Marital Status	Age	Residential Status	Number N=6
Female	Active 1	Indirect	Widowed	61yrs	Migrant	1
Male	Active 1	Indirect	Married	60yrs	Migrant	1
	Active 2	Indirect	Widower	62yrs	Migrant	1
	Active 2	Indirect	Widower	63yrs	Migrant	1
	Retired 1	Indirect	Married	75yrs	Migrant	1
	Retired 2	Indirect	Widower	80yrs	Migrant	1

Source: Field Work (2023)

While some aged smallholder farmers who are subjects of landholding groups secured direct access to their farmland by lineage or social relations, non-members of stool or land-holding groups, migrant farmers and other pineapple producer groups in the Ekumfi Nanabin community had to go through different processes to gain access to land for pineapple cultivation. The remaining six of the sampled aged smallholder farmers between the ages of 60 and 80 years accessed their land indirectly through a lease agreement. Three of the six sampled aged

smallholder farmers were actively engaged in farming, while the remaining three had retired from farming as a source of livelihood. Four of the six sampled aged smallholder farmers who accessed their farmland indirectly were widowed, while the remaining two were married.

Just like direct access, explicit or implicit indirect access are bundles of land rights derived from the tenure arrangement operated by leaders of landholding groups in the Ekumfi district. Aged smallholder farmers who are non-members of landholding groups and migrant farmers have the right to use a piece of land devoid of the formal right to transfer the said interest either through inheritance, gifting or selling. Their exclusive right to use the indirectly accessed land was limited to the tenure duration and the type of crop cultivated. No title deed registration was done to cover the indirect land access by aged smallholder migrant farmers and non-members of the land-holding groups to protect them from alienation in the face of heightened demand for land in the district.

Although within the matrilineal cultures access to productive resources like land are determined by male-centered kinship institutions that have advanced out of patriarchal ideologies in the case of Ekumfi Nanabin. It was discovered the customs and norms surrounding the allocation of land in the Ekumfi district were gender neutral because in the face of heightened demand for land in the Ekumfi district female aged smallholder farmers are not barred from accessing land for their livelihood construction activities. It suffices that the tenurial arrangement in Ekumfi Nanabin had no restriction on modes of acquisition by both men and women. However, the weaker bargaining position of aged female smallholder

farmers relative to their male counterparts in land allocation and financial constraints often prevent some aged female smallholder farmers from accessing agricultural land in the Ekumfi district. On the issues of difficulties in land access by vulnerable groups, the manager of a farmer cooperative known as Adwendaho Organic Pineapple Producers and Suppliers (ACOPPS) and Adwumadzen ma Mpontu Organic Pineapple Producers Association (AMOPPA) had this to say:

As part of our equity mandate, we ensure both women and youth are empowered when it comes to access to land for pineapple cultivation, financial assistance, supply of inputs like suckers, robber spreads and technical assistance on organic pineapple cultivation practices across the thirteen operating communities in the district. After cultivation, the association liaises and sells the pineapple to a processing factory in Nsawom-Addaeso (Manager ACOPPS & AMOPPA, Farmer Cooperative, Essuehyia, 26th April 2023)

Access through Pineapple Producer Groups

Accessing land through pineapple producer groups was also prevalent among some aged smallholder farmers who are out-growers and affiliates of pineapple producers and farmer cooperatives. Migrant farmers and other non-members of pineapple who did not have the means to secure land for pineapple cultivation resorted to the pineapple producer groups for land. The right of aged smallholder farmers who accessed their land through the pineapple producer groups was restricted in terms of the varieties of pineapple and mode of cultivation. Again,

the contractual relationship between the farmer and pineapple producer group also prohibited them from selling their pineapple produce upon harvest to a different buyer or market. The right of the private owner to allocate land to smallholder farmers was also subjected to the tenure duration beyond which land allocation is prohibited by original land owners. Regardless of the relatively longer tenure duration of forty-nine years that accompanied land acquisitions by pineapple producer groups. These private entities were barred from cultivating any other crop apart from the crop for which the land was originally sought for. On this issue, the heads of stool land had this to say:

I believe you saw the passion fruit and coconut farm on your way here. Yes! The company secured about 800 acres solely for pineapple cultivation, but two years after harvesting the pineapple, they (the company) used some portion of the land to cultivate passion fruit and coconut without the prior consent of the royal family (Odomna Clan). We are going to surcharge them for doing that if they fail to approach us after this planting season (Leader of Land Owning Group 1, Nanabin, 28th April 2023)

The expert interview revealed several key actors for both acquisition by members of the family and non-members of the land-holding family. Access by aged smallholder farmers who are members and non-members of the land-owning group and migrant farmers involved heads and principal elders of the land-owning family and a witness of the land seeker (tenant farmers) with no document or whatsoever prepared to cover the verbal agreement reached between the tenant

farmer and the land-owning family. A member of the land holding group places the request for the use of land through the family head and principal elders in whose hand the land is entrusted on behalf of the family. Upon the request from the family member access the availability and suitability of the land requested. If the land is available the stool or family heads on the advice of the principal elders at the request of the family members. Non-members of the land-holding family go through a similar process except that they are required to make a financial commitment in exchange for the requested land over a given period.

Acquisition by pineapple producer groups involved both the heads and principal elders) and other statutory land institutions (lands commission, office of administrator of stool land) usually accompanied by written documents to cover such acquisition. The formalisation of land access by private entities accorded much-secured tenure compared to access by some aged smallholder farmers whose deals were concluded informally with shorter tenure durations and much-restricted tenure rights.

Modes of land Access in the Ekumfi District

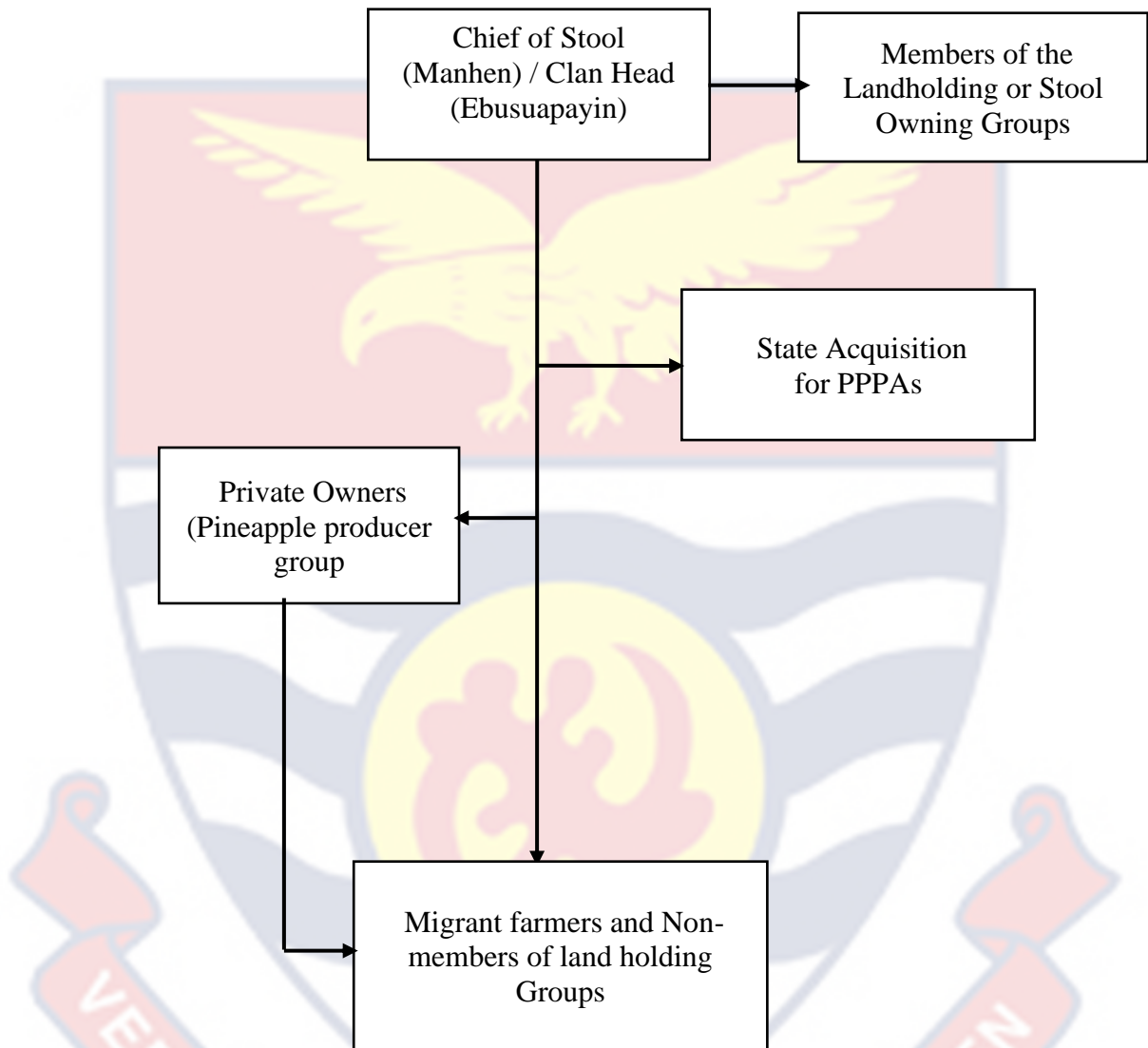


Figure 5: Modes of land Access in the Ekumfi District

Source: Field Work (2023)

Mode of Payment for Indirect Access

The mode of payment of the lease amount varied across the land-owning groups in the Ekumfi district and the Nanabin community in particular. While some land-owning groups require farmers who are non-members of the land-holding

family to make full payment before cultivating on the land, others accept payment of the lease amount on an instalment basis. With the instalment payment, the tenant farmer pays half of the lease amount before cultivating land and pays the remaining amount on harvesting the produce. These payment options were common among both non-members of landholding family migrant farmers who had a credible and proven ability to redeem such pledges. However, these payment options were not opened to companies and farmer cooperatives in the Ekumfi district. It was also found that some land-owning groups had different lease agreements and payment schedules for both members and non-members of the family. The head of a land-owning family had this to say:

For us, non-family members are made to pay the full lease amount before tilling the land. However, the same rental amount is halved for family members for the lease period (Leader Land Owning Group 6, Nanabin, 28th April 2023)

Aside from the monetary amount charged for the allocated land, some land-owning groups demand portions of the farm produce during stool cleansing. More specifically, companies and other farmer cooperatives are made to fulfil other material and social commitments in addition to the lease amount. The rationale behind such demands was attributed to the fact that companies and farmer cooperatives secure large tracts of land for a relatively longer tenure period due to their operational capacity requirement and going concern motives. Thus, depriving many rural dwellers of their livelihood. For these reasons, such material and social responsibilities are added to lease agreements for companies and farmer

cooperatives. On the issue of other material and social commitment, the head of the stool land had this to say:

Apart from the monetary commitment paid for the 800-acre land leased to Ekumfi Fruits and Juices Factory. The factory is required to support us in cash or kind every September when we purify our stools, offer employment to members of the stool in the factory, support community festive celebrations, provide educational sponsorship to the youth of the royal family and the community at large as part of the lease agreement (Leader of Stool Land 2, Nanabin, 30th April 2023)

It was discovered that different land-holding groups have different lease arrangements. Thus, while the fulfilment of other social and material commitments that accompany the lease agreement was obligatory for some land-holding groups it was optional for other land-holding groups. On this issue, a leader of land holding group narrated to the effect that:

For us, it is not obligatory for tenant farmers working on our land to make any financial or material commitment to the family during stool purification aside from the payment of the rent amount. However, if the tenant farmer wishes to support the family monetary or materially during festive seasons it is welcomed, but such commitments are not mandatory (Leader Land Owning Group 4, Nanabin, 26th April 2023)

Mode of Payment for Direct Access

The aged smallholder pineapple farmers who accessed their land through direct access were mostly members of land-holding families in the community. Members of land-holding families had access to portions of land that their ancestors had farmed over the years. The family and stool heads had the dispositional right to land bequeathed to the families or the stool through their ancestors or great-grandparents. The aged smallholder farmers who accessed their farmland through direct access did not make any financial or material commitment before cultivating the land. However, they were required to contribute towards the development projects and other programmes that the stool or family undertakes. Family members who failed to honour their pledges for a considerable period had their lands leased out to non-family members or companies. Proceeds from the lease are then used to settle their obligation (financial and material) to the family. An aged smallholder farmer speaks of the kind of commitment they make for cultivating on family or stool land:

We do not pay anything for using family land, but when the family is bereaved, we are tasked to donate cash, material items and farm produce towards the burial and the funeral. The same commitments are demanded from us during the stool purification rite. For instance, when our family house was to be renovated, we were levied an amount to pay to put it in good shape. (Aged Smallholder Pineapple Farmer 6, Nanabin 30th April 2023)

The acquisition of land in the Ekumfi district has increased greatly with the presence of the Ekumfi fruits and juices factory and ready market for pineapple. This has intensified pineapple cultivation in the catchment communities in the district thereby heightening the cost of the land. The in-depth interview revealed that the changes in the land acquisition were attributed to the presence of the ready market for pineapple both locally and internationally. However, participants disclosed that the modes of acquiring land have changed in the Ekumfi district. A leader of a land-owning family gave an account of the changes in the land acquisition saying:

Previously, access to land was not monetised. With a bottle of Schnapp (a bottle of hard liquor) and a token, a tenant farmer could secure land for farming and other purposes. An acre of land which used to be 80GHC before the establishment of the Ekumfi Juices and Fruits Factory is now leased out to farmers and companies for 400GHC-600GHC (i.e.,33.33-50USD at an exchange rate of 1USD-12GHC) depending on the location of the land. The changing shades of land acquisition in the Nanabin community are due to the presence of Ekumfi Juices and Fruits Factory and the ready market for pineapple both locally and internationally (Leader Land Owning Group 6 , 26 April 2023).

The district agriculture officer gave an account of the changes in the land acquisition saying:

The customary tenure system in its entirety has not changed much. Access to land for pineapple cultivation was executed around communally agreed tenets. These tenets encompass lease and inheritance among others. A blend of any of these modes enhances the transfer of land from one person to another for pineapple cultivation in the district. However, the emergence of the pineapple processing factory and the influx of other agrarian players following the ready markets for pineapple has caused a surge in the demand and the price of land over the years (District Agriculture Officer 1, Eyisam, April 30th, 2023)

The participants indicated that before the increasing demand for land in the district smallholder farmers periodically put their land to fallow to restore soil fertility. Participants disclosed that following the increasing demand for land in the Ekumfi district, there is no guarantee that the smallholder farmers can keep her/ his land fallowed for their use in the future due to tenure insecurity associated with the customary tenure institutions in the Ekumfi district. According to participants as the landholdings kept shrinking, the only feasible strategy that guaranteed the use right of farmers who were not members of the landholding groups was continuous farming. An aged smallholder pineapple farmer narrated what she does to secure her farmland in the face of heightened demand in the Ekumfi district.

The tendency to lose your farmland during the fallow period is high. The only options that have sustained my agrarian livelihood activities are tenure renegotiation and continuous farming.

Although this strategy has affected my yield over the years, that is the only feasible way I can keep up with my farming activities and make a living. (Aged Smallholder Pineapple Farmer 8, Nanabin, 6th May 2023)

The foregoing results from the data gathered on tenurial arrangements regarding the use of land for commercial agriculture purposes in the Ekumfi district revealed that land in the Ekumfi district comes under private ownership (pineapple producer entities) and customary ownership. Private land was owned by the pineapple producer groups, while the customary land came under the ambit of stool and family ownership. The allocation of customary land was entrusted in the hands of the family and clan heads (Ebusuapayin) or chiefs (Manhen) respectively. From the analysis, it came to light that the customary land ownership structure in the Ekumfi district had about four-fifths or 80 per cent of the available land as family land while the remaining one-fifth or 20 per cent as stool land.

The most commonly practised mode of access to land for pineapple cultivation in the Ekumfi district was through direct access and indirect access (lease agreement). The lease was more predominant among migrant farmers and non-affiliates of landholding groups, while direct access was the more prevalent mode of access among the members of stool-owing or landholding families. Out of the ten active smallholder pineapple farmers, six of them comprising three male native farmers and three female native farmers accessed their land through direct access. The remaining four participants comprising three male migrant farmers and one female migrant farmer had their pineapple farmland through a lease agreement.

The modes of acquiring land among the aged smallholder farmers had strong a relationship with their membership to a land-holding or stool-owning group in the Ekumfi district.

Access to land for commercial agriculture purposes in the Ekumfi district is governed by rules and regulations put forth by both the traditional authorities and the state. The decision as to who has access to what land, who can use what parcel of land and under what conditions are governed by both statutory rules and customary norms as alluded to by Meyer and Rowan's (1970) institutional theory. In the Nanabin community chief and family heads regulated the allocation of land to the smallholder farmers. The allocation to smallholder farmers was concluded verbally and authenticated with witnesses from both land-holding groups and the land seeker (tenant farmer) without proper documentation or legal cover. However, access by private entities such as pineapple producer groups, and farmer cooperatives was executed jointly by both the informal and formal institutions. The traditional authorities within the land-holding families collaborated with formal institutions to facilitate the allocation of land to pineapple producer groups in the Ekumfi district.

The aged smallholder pineapple farmers who access their land directly from their respective families made no prior monetary payment for their land. However, they were levied to support family developmental projects such as funerals, stool cleansing, and renovation of family houses among others. The aged smallholder pineapple who accessed their land through a lease agreement was required to pay a lease amount ranging from 400GHC-600GHC per acre depending on the location

of the land. While some land-holding families made it obligatory for the aged smallholder pineapple farmers to make social and material commitments for leased land. Such social and material commitment was not obligatory for those who accessed their farmland from the Eguana family. Aside from the payment for the leased land, private entities who accessed stool land were required to make other social and material commitments such as educational scholarships, offer employment to some members of the landholding group at the factory, and support the community during festive seasons.

The mode of accessing land in the Ekumfi Nanabin conferred different rights for both aged smallholders who are members and non-members of the land-holding family as well as the private entities (pineapple producer groups). The aged smallholder farmers who are non-members of land-holding groups, migrant farmers and private entities enjoyed a limited right to use leased land but had no right to transfer the said interest either through inheritance, gifting or selling their close relations beyond the agreed tenure duration. The right to use the leased land was limited to the tenure duration and the type of crop to cultivate. The aged smallholder pineapple farmers who accessed their farmland directly from their matrilineal lineage had the right to use and determine who could use the land but enjoyed limited transfer rights. The male-aged smallholder farmers, unlike their female counterparts, had limited rights when it comes to transferring the land and the kind of crops to cultivate. Rights accompanying direct access vary with the gender of the farmer in the land-holding group. The succeeding section analysed the various

livelihood activities employed by the aged smallholder pineapple farmers out of the available livelihood choices in the Nanabin community.

Aged Smallholder Pineapple Farmers Livelihood Activities

The second objective of this study centred on the livelihood activities of the aged smallholder pineapple farmers in the Nanabin community. To obtain information on the livelihood activities of aged smallholder pineapple farmers, the analysis covered issues regarding on-farm crop diversification activities aside from pineapple cultivation, animal rearing (livestock) diversification, off-farm diversification activities, other income generating sources such as cash and non-remittances, rental income and rural wage employment. Livelihood activity was operationalised as economic activities undertaken by aged smallholder farmers to achieve their livelihood goals in the rural setting. The ensuing sections elaborate on the major salient revelations regarding the livelihood activities undertaken by the aged smallholder farmers in the Ekumfi Nanabin community.

On-farm Livelihood Activities Undertaken by Aged Smallholder Farmers

This section delved into the various on-farm livelihood activities undertaken by aged smallholder pineapple farmers in the Ekumfi Nanabin community. Specifically, the analyses shed light on the major livelihood activity (pineapple cultivation) in the Ekumfi Nanabin community, other crop diversification activities aside from pineapple cultivation, livestock (animal rearing) diversification activities undertaken by aged smallholder pineapple farmers in the Ekumfi Nanabin for their survival. The in-depth interview and observations indicated that their major livelihood activity in the Ekumfi district was

agriculture. The aged smallholder pineapple farmers were divided over the cultivation of three pineapple varieties namely smooth cayenne, sugar loaf and MD2 in the Ekumfi district. The division in the variety of pineapple cultivated among the aged smallholder farmers depended on the available markets and whether or not the farmer had to apply fertilizer at any stage of the pineapple cultivation.

Participants remarked that land preparation (clearing, ploughing, trenches making) for this commercial crop starts around October when the first rains are usually expected. The clearing and ploughing of land are done concurrently, and trenches of soil heaps (beds) are made with walk paths in between each bed to allow for air and movement on the field. Black polytene spreads are then used to cover the surface and tucked at the sides of the bed to keep it moist and control weeds throughout the cultivation period. Thereafter holes with considerable intervals are created on top of the bed where the pineapple suckers are planted. Some acres of farmlands were prepared for pineapple cultivation under the modern method at Ekumfi Nanabin (Figure 6)



Figure 6: Modern method of preparing land for pineapple cultivation at Ekumfi Nanabin

Source: Field Work (2023)

The participants revealed that for the past twenty-five years, pineapple cultivation in the district was done without mounds. An aged smallholder pineapple farmer disclosed the rationale behind transitioning from the old method of cultivating pineapple method saying:

Rainfall in the olden days was very reliable because we had the vegetation cover, so farmers could create holes with considerable intervals and plant the suckers directly on the bare soil without mounds (beds). These days, rainfall patterns are not reliable so without humidifying the soil by spreading black polythene, the farmer will not reap the sizes of pineapple she or he desires. The only problem the farmer encounters with the traditional method of

pineapple cultivation is dealing with weed control (Aged Smallholder Pineapple Farmer Nanabin 5, 10th May 2023)

From the participants' view, at every stage of pineapple cultivation, aged smallholder farmers either rely on hired or household labour or both depending on the financial strength of the farmer. With the current method of pineapple cultivation, land clearing and ploughing are mechanised with sourced labour. The aged smallholder farmers who are outgrowers of pineapple producer groups ploughed their farmland every planting season after clearing the land. The aged smallholder pineapple farmers relied on hired labour as against household labour for their land ploughing and mounds making averred that it drains them financially. That notwithstanding, all the participants remarked that pineapple cultivation has been a gainful livelihood activity for the farmers in the Ekumfi district.

Crop Diversification

Crop diversification has been the dominant practice as the active aged men and women in Ekumfi Nanabin have made a living and derive economic gains from cultivating maize, cassava, plantain and other vegetable crops (pepper, garden eggs and tomato). The participants recounted that they supplement their household consumption needs and incomes by cultivating different crops such as maize, cassava, plantain, pepper, garden eggs and tomatoes aside from pineapple. The practice of cultivating only pineapple is a thing of the past among aged smallholder farmers in the Nanabin community as they have gained more from growing other crops as shown in Table 7.

Table 7: Other Crop Diversification Activities

Other Crop Cultivated	Sex and Farming Status		Number of farmers Cultivating (N=10)
	Male Active Smallholder Farmer (N=6)	Female Active Smallholder Farmer (N=4)	
Maize	6	4	10
Cassava	6	4	10
Plantain	4	2	6
Pepper	2	3	5
Garden Eggs	2	3	5
Tomato	2	3	5

Source: Field Work (2023)

The aged active male and female smallholder farmers in Ekumfi Nanabin made a living from cultivating maize, cassava, plantain and other vegetable crops as they prepare all kinds of food and derive numerous economic benefits from these crops through the sale of surpluses. The next most diversified crop activity pursued by the aged smallholder farmers was maize and cassava cultivation. All ten active-aged smallholder farmers pursued maize and cassava cultivation to support the household consumption demands and sell the excess produce. Six of the ten active smallholder farmers also diversified into plantain farming. An equal number of two male and three female active smallholder farmers also pursued vegetable crops such as pepper, and garden eggs tomato was cultivated in limited quantities to fulfil subsistence demands such as soups, stews and economic gains in the Nanabin community. The cultivation of these crops has helped the aged smallholder farmers who cannot afford to purchase these vegetables from the local market to meet their household consumption demands. The aged smallholder farmers indicated that they

have averted food insecurity and associated problems. An aged smallholder pineapple farmer had this to say on why she engages in other crop cultivation.

Pineapple cultivation is a major gainful livelihood activity in Ekumfi Nanabin. Individual farmers cultivate other crops and depend on other home-based activities to make a living. In a local dialect, “Nyimpa n’ehiasem do so na eto nntwada’ which translates as ‘human needs are plenty and insatiable’ Pineapple matures in two years so a farmer who relies solely on proceeds from pineapple cultivation will have to starve for two years which is impossible. Aged smallholder pineapple farmers in the district cultivate other food crops and engage in other trades to make a living. A farmer cannot rely on only income from pineapple cultivation to sustain his or her family (Aged Smallholder Pineapple Farmer 10, Nanabin, 4th May 2023)

Although the aged smallholder pineapple farmers highlighted their diversification into other food crops cultivation apart from pineapple. The aged smallholder farmers also undertake animal-rearing diversification activities to relieve themselves from old-age vulnerabilities. The ensuing Table 8 captures the livestock ownership and purpose for which they are kept among aged smallholder farmers.

Table 8: Livestock Rearing Among Aged Smallholder Farmers

Livestock Reared	Active aged Smallholder Farmer N=10(66.67%)	Retired Aged Smallholder Farmer N=5 (33.33%)	Number Rearing N=15 (100%)
Sheep	7	2	9(60%)
Goat	8	3	11(73.33%)
Pig	4	-	4(26.67)
Chicken	9	4	13(86.67)
Snails	3	2	5(33.33%)

Source: Field Work (2023)

As covered in Table 8, 13(86.67%) comprise nine active and four retired aged smallholder farmers reared chickens. Eight active and three retired smallholders also kept goats. Another nine (60%) consisting of seven active and two retired aged smallholder farmers reared sheep. Three active and two retired aged smallholder farmers were also into snail rearing. Only four (26.67%) active-aged smallholder farmers reared pigs. Participants had a dual reason for keeping these animals. Participants disclosed that they kill some to fulfil their household meat consumption demands and a times sell them to people especially during festive seasons to cater for their needs or in situations when incomes from their close relations are delayed.

Aged Smallholder Farmers Off-farm Livelihood Activities

This section highlights other activities besides agriculture-aged men and women smallholder pineapple farmers in Ekumfi Nanabin relied on. The in-depth interviews and observations revealed that off-farm livelihood activities undertaken by aged smallholder pineapple farmers in the Ekumfi district were gender specific. These are displayed in Table 9.

Table 9: Off-farm Activities Pursued by Aged Female Smallholder Farmers

Off-farm Livelihood Activities	Farming Status		Number Undertaken (N=6)
	Female Active	Female Retired	
	Smallholder Farmer (N=4)	Smallholder Farmer (N=2)	
Gari Processing	3	-	3
Konkonte Processing	3	-	3
Petty Trading	3	-	3
Care Provision	4	2	6

Source: Field Work (2023)

Specifically, the aged female smallholder farmers both active and retired supplemented their agricultural livelihood activities with gari and konkonte processing, and petty trading and provided unpaid caregiving activities to their grandchildren and other vulnerable people in their household in the Nanabin community. Three (50%) active female-aged smallholder farmers engage in gari processing, especially during the rainy season. According to the participants, the best way to save their cassava from decomposing on the field is by processing the cassava into gari to supplement their household consumption basket and selling the surplus to the local market.

Another three (50%) aged females comprising one (16.67%) active migrant and two (33.33%) active-aged female smallholder farmers also process their cassava by drying and milling the dried cassava into flour for a local delicacy called konkonte for household consumption and resale to the local market. This livelihood option saved aged women and smallholder farmers from losing their cassava farms during the rainy season. Proceeds from these activities enabled aged females to take

of themselves, and their grandchildren and to cover other expenses that might arise in their household.

It was observed that the aged female smallholder farmers also engaged in petty trading of their farm produce, such as maize, pineapples, cassava, garden eggs, pepper and tomatoes when harvested. Three (50%) consisting of one (16.67%) migrant-aged farmer and two (33.33) native-aged active women turn themselves into local buyers especially during peak harvest seasons of these crops by buying from their co-farmers and transporting them into urban centres for resale. Some aged women smallholder farmers also own shops (kiosks) in the Ekumfi Nanabin community, so on their return from trading trips in the urban centres, they buy certain consumer goods (canned food, sachet tomato paste, species, bags of rice, sugar, drinks among others) to stock their shops and retail them to the local consumers for profit.

The in-depth interviews and observations revealed that all of the six aged women smallholder farmers, specifically, the retired aged smallholder farmers who needed to be cared for rather assumed informal and unpaid caregiving activities at both household and community level. Almost all the sampled aged women smallholder farmers were staying with their grandchildren and other relatives who needed to be cared for. Most of the caregiving activities rendered by the aged women smallholder farmers include cooking, washing, provision of basic needs, prefinancing educational expenses and counselling. At the community level, some of the retired women smallholder farmers were tasked to look after the grandchildren of other people in addition to their own, especially during peak

planting season when considerable time is spent on the farm. The retired women smallholder farmers who were required to be cared for now act as caregivers and counsel these children on morally accepted ways of behaving in society. This is what Haberkern et al (2011) termed the double role of the aged as providers and recipients of care.

The aged men smallholder pineapple farmers reported artisanal jobs such as carpentry, mason, herbal medicine, and charcoal making that equally required technical expertise. The possession of these skills offered both the active and retired aged men jobs both within and outside the Nanabin community which earned them additional income to sustain their livelihoods. The diversified services of aged men who are artisans were enjoyed by the entire Nanabin community. Of the nine sampled male-aged smallholder farmers, four (44.44%) comprising two migrants and two (22.22%) natives respectively undertook carpentry jobs in the community. The participants disclosed that members of the Nanabin community sometimes engage their services when it comes to activities such as roofing, and household furniture among others. A considerable number (33.33%) made up of one migrant (11.11%) and two native (22.22%) aged male farmers possessed skills in masonry works such as bricks and block laying, and plastering jobs in the Nanabin community. Regardless of the intermittent nature of these jobs, participants disclosed that the proceeds from these artisanal jobs enabled them to make a living. Details of each off-farm activity pursued about sex and farmer category are shown in the ensuing Table 10.

Table 10: Off-farm Activities Pursued by Aged Male Smallholder Farmers

Off-farm Livelihood Activities	Farming Status		Number Undertaken
	Male Active Smallholder Farmer (N=6)	Male Retired Smallholder Farmer (N=3)	
	Carpentry	4	
Masonry	3	-	3
Charcoal Maker	5	-	5
Herbalist	1	2	3

Source: Field Work (2023)

Another (33.33%) made up of two retired (22.22%) and one active (11.11%) aged male smallholder farmer possessed knowledge in prescribing plant herbs as medicine to heal all sorts of sickness. These people knew how to use specific plant herbs to support holistic wellness and treat specific conditions that worried people in the Nanabin and surrounding communities. The in-depth interview unveiled another five (55.60%) consisting of two active migrants (22.24%) and three (33.35%) active aged smallholder farmers who were into charcoal making in the Nanabin community. These participants collect the wood cleared during land preparation to make charcoal as fuel to support household energy consumption and sell surpluses at the local market. Aside from harvesting wood during land preparation for pineapple, these farmers had acres of acacia trees which they fell to make charcoal, and as logs for supply to fishmongers and other commercial food joints in the district. The possession of this knowledge in these off-farm livelihood activities enabled the aged male smallholder pineapple farmers to improve their living standard in the Nanabin community.

Other Income Diversification Portfolios of the Aged Smallholder Farmers

The in-depth interview revealed that some aged smallholder pineapple farmers in the Ekumfi Nanabin earned some income from leasing their portion of family land allotted to them and other properties (houses, motor tricycles). The retired aged smallholder pineapple farmers who manage to build houses from their farming activities during their active working years indicated that they have been getting a constant monthly income by renting out their houses to teachers and nurses and other agricultural workers posted to the district. The aged smallholder pineapple farmers with physical assets such as motor tricycles have been renting the asset for carriage purposes to farmers and other people within the district to generate some income for themselves. The aged smallholder pineapple farmers in Ekumfi Nanabin have managed to convert their physical assets into income-generating resources through leasing.

The study revealed that the rural economy of Ekumfi Nanabin offers formal employment opportunities to young people in their active working years. Some active aged smallholder farmers were offered casual employment at the Ekumfi Fruits and Juices Factory to prepare the crown of harvested pineapple for the nursery. The aged active female relied on this casual work to earn something to support their livelihood. This engagement has enabled them to earn income to enhance their ability to access land for their livelihood construction activities such as pineapple cultivation and other crop diversification to sustain themselves. Other active-aged male smallholder farmers with in-depth knowledge of pineapple cultivation were also offered part-time supervisory jobs during sucker planting.

Casual labour was an alternative avenue for the active aged smallholder farmers in the Ekumfi district. The sustainability and overall contribution of daily wage employment towards the realisation of their livelihood goals is questionable. This is because, for most of the aged smallholder farmers, it is the desire to survive and gain an income that is the prime reason why they engage in such employment.

Having dealt with the various livelihood activities undertaken by aged smallholder pineapple farmers as they seek to sustain and improve their livelihoods. It was imperative to delve into social support systems available to the aged smallholder pineapple farmers in their livelihood construction activities and how often they receive these supports. Social interventions such as Livelihood Empowerment Against Poverty (LEAP) and the National Health Insurance Scheme (NHIS) among others have been provided by the state. Participants hinted that the inopportuneness and politicization of these social interventions have marred the reach of the interventions to the intended beneficiaries in the Ekumfi Nanabin community. The in-depth interviews revealed distinct forms of support by the family and civil society. For both retired and active-aged smallholder pineapple farmers, social support services have played a critical role in their livelihood construction activities in the Ekumfi Nanabin community. The aged smallholder farmers in Nanabin reported how remittance whether in cash or in-kind had kept them afloat in times of difficulties. Table 11 shows the cash and non-cash remittances they receive from their social relations.

Table 11: Remittances Received by Aged Smallholder Farmers

Sex	Farming Status	Cash Remittance	Non-Cash Remittance	Number Receiving
Male	Active	3	3	6
	Active	3	3	6
	Retired	1	1	2
	Retired	2	2	4
Female	Active	3	3	6
	Active	1	1	2
	Retired	2	2	4

Source: Field Work (2023)

The aged smallholder pineapple farmers indicated how much they have benefited from cash remittances from their children and close relatives. Most of the aged smallholder farmers had their children working in the urban centres and remit them occasionally. Such payments are usually made through mobile money transfers or are sent through people who visit the community regularly. The aged smallholder pineapple farmers hinted that the fact that they are marking a living through other means does not stop their children from supporting them financially. Another important aspect raised by the aged smallholder concerning their remittances has helped them acquire agricultural implements such as cutlass, knapsack sprayers, fertilizers, seeds, polythene spreads, and weedicides. To the aged smallholder pineapple farmers, this support has enabled them to kick start or undertake other livelihood enterprises. An aged smallholder recounted how cash remittances from children have benefited her saying:

Our children have been so supportive that they send us money every month. My children in the city mobilise and send us money every month and this has helped us buy basic needs for ourselves. All my children are aware that we farm and operate a small business, but that has never stopped them from helping us every month. Because of the continued flow of income, we have been able to cater for all our expenses anytime they fall due (Aged Smallholder Pineapple Farmer, Nanabin 11, 6th May 2023)

The cash remittance made to the aged smallholder pineapple farmers has been complemented with non-cash remittances in the form of farm implements, clothes, food items and other assets. The fifteen aged smallholder pineapple farmers claimed that the migration of their children to the urban centres for work has had a positive impact on their livelihood. The children and close relatives of the aged smallholder farmers remitted foodstuffs such as rice, beans, onions, salt, cooking oil, and canned food. They also send items such as mattresses, clothes, television sets, radio, multi-tv decoders, agricultural implements, such as cutlass, knapsack sprayers, weedicides and other building materials. An aged smallholder pineapple farmer indicated how remittance in the form of food items helped him saying:

My children make sure we have a full stock of food items such as rice, sugar, cooking oil, and canned food to sustain us because at times the local retail shops may be out of stock of these food items. (Aged Smallholder Pineapple Farmer 12, Nanabin, 10th May 2023)

The conceptual framework of the study proposes that the aged in most developing countries particularly those without formal employment cannot disengage from livelihood activities due to the absence of an institutionalised social safety net to address their diverse social problems. Even aged with formal employment and pension benefits still undertake other livelihood activities after retirement and do not talk of disengaging entirely. Before venturing into pineapple cultivation, the aged had engaged in informal work like petty trading, farming and artisanal works. The in-depth interview and observations revealed agriculture (crop diversification and livestock rearing) as the major livelihood activity pursued by the aged smallholder farmers in the Ekumfi district. The aged smallholder farmers in the Ekumfi Nanabin have pinned their hopes on pineapple cultivation, livestock rearing such as sheep, goats, pigs, chicken and snails and other crop diversification such as maize, cassava, plantain, pepper, garden eggs and tomatoes to make a living.

Agrarian livelihood activities such as pineapple cultivation and other crop and animal diversification were insufficient for the survival of the aged smallholder farmers as they complimented their primary livelihood activities with other non-agricultural livelihood activities to gain more income to sustain themselves. Both female and male active-aged smallholder farmers complemented their agrarian livelihood with gendered-specific non-farm livelihood diversification activities. While the active aged female smallholder farmers undertake gari and konkonte processing, petty trading and caregiving activities. The male-aged smallholder

farmers also engaged in carpentry, mason, herbal medicine, and charcoal making to improve their livelihood in the Nanabin community.

Aside from farm and non-farm livelihood activities, other income diversification activities such as rental income, rural wage employment as well as social capital (cash and kind remittances) from children and relatives have been very critical in the survival of the aged smallholder pineapple farmers in the Ekumfi Nanabin. Aged smallholder farmers who had acquired some assets such as buildings, tricycle among others rented them to earn some money to support their upkeep. Remittances in cash and kind from social relations living and working in the cities contributed to household food security of the aged smallholder farmers.

Aged Smallholder Pineapple Farmers' Livelihood Goals

The preceding section highlighted the various livelihood activities undertaken by the aged smallholder pineapple farmers in the Nanabin community in the face of changing tenure forms accompanying commercial agriculture. The third objective of the study sought to investigate the livelihood goals of the aged smallholder pineapple farmers in Ekumfi Nanabin. This was to ascertain what the aged smallholder pineapple farmers desire to achieve from the numerous livelihood activities they pursue. In analysing this objective, the study rank-ordered all the desired livelihood goals of the aged smallholder pineapple farmers from the livelihood activities they pursue and whether or not there has been any hindrance in the realisation of their livelihood goals. The in-depth interview revealed that the aged smallholder farmers were inspired by numerous livelihood goals which include attaining food security, income security, asset accumulation, social status

and a better future for children and grandchildren. According to the participants, the realisation of these livelihood goals has been the major driving force behind the economic activities they pursue in the Nanabin community. Table 12 displays the livelihood goals of the aged in decreasing order of priority.

Table 12: Livelihood Goals of the Aged Smallholder Farmers

Sex/Farming Status	Livelihood Goals of the Aged				
	Food Security	Income Security	Assets Accum.	Better Future for Children	Social Status
Female-Active	4	3	3	3	2
Retired	2	2	1	-	-
Male- Active	6	6	6	4	4
Retired	3	2	2	2	2
Frequency N=15(100%)	15(100%)	13(86.67%)	12(80%)	9(60%)	7(46.67%)

Source: Field Work (2023)

Among the identified livelihood goals food security was the most pressing livelihood goal among the aged smallholder pineapple farmers in the Ekumfi district (Table 12). All 15 (100%) aged smallholder farmers disclosed that access to sufficient and nutritious food that meets their dietary needs and food preference for active and healthy living is what motivated them to engage in livelihood activities. For the aged smallholder pineapple farmers, the rationale for engaging in agriculture and other livelihood activities is to ensure a stable food supply in their households. The active-aged smallholder pineapple farmers were able to supplement their household food consumption demands with their farm produce

and access the rest of the food demands from the local market with the proceeds from other economic activities they undertook. The retired aged smallholder pineapple farmers relied on rental incomes and remittances from their children and close relations to ensure a constant intake of food in their homes. Aged smallholder farmers explained why food security drives their livelihood activities in the Nanabin community:

As rural dwellers, our prime livelihood activity is to till the land to put food on our tables. It is not natural for us to buy food like cassava, maize, plantain and the rest, but rather we cultivate the land for basic food to sustain the household and the little surplus we get we sell to buy other food complement that we don't have (Aged Smallholder Pineapple Farmer 10, Nanabin, 30th April 2023)

Another participant reiterated the relevance of food security as her livelihood goal in local parlance saying:

Ennum edzedzi kakra yea'a ntsi na yedzi dwuma ahorow aa otse dem ye ooo!! Translated as "It's the little we will eat that makes us undertake all these livelihood activities (Aged Smallholder Pineapple Farmer 4, Nanabin, 12th May 2023)

From the in-depth interview, income security emerged as the next paramount livelihood goal that drives the livelihood activities undertaken by the aged smallholder pineapple farmers in the Nanabin community. About 13 (86.67%) of the aged smallholder farmers revealed that having adequate levels of income coupled with the assurance and expectation of future incomes are critical for their

survival. The participants regarded secure income source as the next most important livelihood goal that comes into play in any human endeavour and livelihood construction discourse, because without secured income we cannot afford to undertake any agricultural activities, let alone think of settling household-related expenses. Income security is not only a concern during once active working years but also during times of unforeseen circumstance particularly in old age and the well-being of the aged in contemporary societies is much connected to income sustenance.

According to the aged smallholder farmers income security has been their second most fundamental livelihood goal because as they keep ageing the opportunity and ability to generate income may reduce significantly or in the worst cases non-existent thereby subjecting them to abject poverty and inequality. However, attaining a secured income will enable them to live a dignified life after retiring from these livelihood activities. Both active and retired aged smallholder pineapple farmers averred that they may not have huge sums of money under their pillows at the moment, but the assurance and expectation of getting some proceeds from their farms and other livelihood activities often make them secure financially. An aged smallholder pineapple explained how his expectation of future income makes him feel secure as follows:

At times the actual money to settle household expenses such as school fees, utilities, and consumption I may not have it. But, with the assurance of realising some income from the farm, close relations or other livelihood activities at a future date, I could seek

financial support to settle my immediate expenses and pay the debt at a later date (Aged Smallholder Pineapple Farmer 9, Nanabin, 28th April 2023)

The ability of farmers to acquire assets from their livelihood activities is a measure of progress and a source of encouragement that directs their efforts in subsequent undertakings. Asset accumulation was pronounced as the third most desired livelihood goal that informed the livelihood activities undertaken by the aged smallholder pineapple farmers in the Nanabin community. About 12 (80%) of the aged smallholder farmers averred that it is not only about what to eat or having a sustained income, but the ability to acquire an asset or undertake a project out of the proceeds from a livelihood activity is also the most desirous achievement that boosts future undertakings of the farmers.

According to the participants, the inability to realise something valuable from their livelihood activities disincentivises them in their future livelihood undertakings. The in-depth interview revealed that both male and female-aged smallholder pineapple farmers have accumulated assets ranging from land, livestock, buildings, household items, and farm implements out of the incomes that accrue from their livelihood activities. For the aged smallholder pineapple farmers, the desire to acquire assets is among the prime motives that inspire their livelihood activities.

The desire to build a better future for children and grandchildren was among the pressing goals that motivated the aged smallholder pineapple farmers in their livelihood construction activities. The participants believe that their children

are the immediate source of support they can depend on in their old age. Nine (60%) of the participants revealed that they have devoted resources towards developing potential through education and trade to ensure their children succeed in life. The aged smallholder pineapple farmers have pinned their hopes on the reciprocity of support associated with child development investments. The research participants were of the strong conviction that creating a good foundation for their children will pay back in their old age. The rationale behind striving to build a better future for children and grandchildren confirms the widely held assertion that caring for children and close relatives is a social investment against future eventualities. Again, the desire to build a better future for children and grandchildren is aligned with the expected role of children in the upkeep of their parents when they become incapable of working.

From the in-depth interview, it was revealed that inherent in the realisation of the aforementioned livelihood goals comes with elevation in the social status of the aged smallholder farmers in the community. Almost half (46.67%) of the participants disclosed that the ability to attain food and income security, accumulate wealth and build a better future for children and children attract respect, honour, and assumed competencies from the people of the Nanabin community and the district at large. The participants recounted the desire to win the respect of the people of the Nanabin community as a major pull factor that drives their efforts in their livelihood activities. Following this, 46.67 per cent of the aged smallholder farmers disclosed that they undertake several livelihood activities, not only for food

and income security, to accumulate wealth, and to create a better future for their children but to make a good name out of what they do for a living.

Challenges Encountered in the Pursuit of Their Livelihood Goals

Participants further disclosed that they have not fully realised all the aforementioned livelihood goals due to certain hindrances they encounter in their livelihood pursuit. The aged smallholder farmers reported that one of the factors inhibiting the realisation of their livelihood goal is deteriorating health and physique. A retired aged smallholder farmer made an ensuing disclosure:

Now am unable to farm as I used to, due reduction in my strength.

During my active working years, I was very energetic. I could farm

the whole day but now I get tired and cannot farm as I used to. Also,

I have a family to feed and much of the products from the farm are

used to feed the family rather than sell for money (Retired Aged

Smallholder Pineapple Farmer 15, Nanabin, 28th April 2023)

The health of the aged has been a critical issue in livelihood construction activities and the critical aspect of human capital. Health and livelihood choices are connected, in that good physical health is required for production, reproduction, learning and participation. Although the non-payment of premiums for the National Health Insurance Scheme (NHIS) gave some relief to the aged smallholder farmers who were 70 years and above. The non-inclusive nature of the NHIS policy makes access to health care very expensive for the aged. Because the NHIS does not cover the prescription of certain chronic and terminal diseases. Regarding the higher cost of accessing proper health care, some aged smallholder pineapple farmers have

been relying on traditional medicine instead, due to their conviction in the power of traditional medicine as a source of cure.

From the in-depth interview, it also came out that the absence of credit markets has hindered the ability of aged smallholder farmers to realise their livelihood goals. The aged smallholder farmers could not intensify their livelihood activities due to the absence of a credit market in the district. This neglect affected the aged smallholder farmers because they could not increase their farms resulting in a loss of expected income from their livelihood activities. The aged smallholder pineapple farmers could not access loans to buy polythene spread, fertilizer, secure large tracts of land, labour and other inputs to improve their yields due to a lack of collateral security. An aged smallholder farmer recounted his ordeal as follows:

Access to credit markets for farm expansion has been a major impediment to farmers in realising our livelihood goals in the Ekumfi district. We don't have access to any loan facility to buy inputs, hire labour and other machinery to plough our land during the major planting seasons. Again, marketing of the pineapple is an issue of concern as the buyers fail to deliver on their mandate resulting in post-harvest loss. The Ekumfi fruit and juices factory does offer good prices for pineapple fruits. The other pineapple-buying groups do not offer prompt payment, without money, we find it difficult to buy food and access good health care at the hospital. (Aged Smallholder Pineapple Farmer 12, Nanabin, 14th May 2023).

The severity of this constraint was attributed to the poor functioning of rural financial markets and the absence of business development services in the Ekumfi district. Participants hinted that the absence of credit markets to deliver the needed support services negatively affected the livelihood construction activities of the aged smallholder pineapple farmers hence their inability to fully realise their desired livelihood goals.

According to Asante et al (2021), there is a strong nexus between climate change and rural livelihoods that also impacts the livelihood goals of aged smallholder farmers. As established earlier, farmers in Ekumfi district depend heavily on rain-fed agriculture, making the realisation of their livelihood goals highly susceptible to climate variability. The aged smallholder farmers faced poor harvests due to delays in rainfall subjecting them to food insecurity problems. The climatic variabilities have seen rural dwellers in the Ekumfi district transition from the traditional method of cultivating pineapple to the new method in their quest to improve their yields.

Participants further reported that the modern method of cultivating pineapple is capital intensive and drained off the little profit that accrues from their agrarian activities, hence their inability to attain their livelihood goals. Another issue that distorted the realisation of the livelihood goals of the aged smallholder farmers was farmland takeover and encroachment of farms by some pineapple-producing entities. Two active male smallholder farmers recounted an incident where their farmlands were taken over by the Ekumfi fruit and juices factory without any form of compensation.

The results on the livelihood goals showed that the aged smallholder pineapple farmers are stimulated by several livelihood goals in their livelihood endeavours. The desired livelihood goals of the aged smallholder farmers entailed attaining food and income security, accumulating assets, building a better future for children and grandchildren and being accorded good social status. The aforementioned livelihood goals have directed the efforts of the aged smallholder pineapple farmers in their livelihood construction activities in the Nanabin community as alluded to by the continuity theory (Atchley, 1971). The continuity theory further asserts that older people should continue to be active and resist the limitations brought about by ageing as long as possible to be able to sustain themselves even in the absence of an institutionalised social security system. In decreasing order of importance, the aged smallholder farmers prioritised food and income security, asset accumulation, a better future for children and grandchildren, and good social status as their most pressing livelihood goals. The aged smallholder farmers disclosed they have not been able to realise all the aforementioned goals due to their deteriorated health and physical strength, climate changes and the absence of credit markets in the Ekumfi district.

Tenorial Arrangements and Livelihood Choices

The final objective analysed the influence of the tenorial arrangements on the livelihood choices of the aged smallholder pineapple farmers in the Ekumfi Nanabin. The tenorial arrangement connotes a series of arrangements between landholding groups and farmers regarding the use of land for commercial agriculture purposes in the Ekumfi Nanabin community. According to the institutional theory

access and control over the productive resource (land) are governed by both customary and statutory institutional framework that dictates who gets the land, when and how with the leaders of stool and landholding families as well as the varied modes in which people acquire land confers a different right on users. Insights from the foregoing theoretical stance helped shed light on the influence of tenure arrangements on specific on-farm livelihood activities off-farm livelihood activities and other income-generating activities pursued by the aged smallholder farmers. On-farm livelihood activity as explained earlier includes diversification of crops cultivated and animal rearing activities.

The off-farm livelihood activities entailed all non-agricultural activities undertaken by the aged smallholder pineapple farmers in the Nanabin community. Since some of the livelihood activities pursued by the aged smallholder farmers had no direct connection with tenure arrangement, the study employed indicators of “direct and indirect influence” to ascertain the influence of the tenure system and as well paint a picture of the integrative nature of rural livelihood activities as advanced by (Ellis, 2000). The research participants revealed that they till the land to undertake both crop and livestock diversification activities to sustain themselves through the practices of bush following.

Participants attributed this to the fact that they do not have the financial muscle to secure large tracts of land down to sustain their farming activities through bush fallowing practices. The aged smallholder farmers had no option but to renegotiate for continuous use of the previously cultivated land since their rights over the land during the fallow period were not guaranteed. According to

participants the pervasive nature of tenure insecurity associated with some leased and inherited land induced and shortened the fallow period which is sub-optimal for crop yields. An aged smallholder pineapple farmer narrated what she does to retain her land for her on-farm livelihood activities:

Since I don't have money to secure vast land, so continuous cultivation has been my land retention strategy. When my tenure elapses, I initiate another tenure with the land-owning family to enable me to undertake my livelihood activities such as pineapple farming and other crop diversification. Although this practice had implications on my yield, with modern methods of cultivation pineapple can harvest something (Aged smallholder pineapple farmer 8, Nanabin, 9th May 2023)

According to research participants tenure insecurity and the uncertainties associated with land fallowing have negatively impacted crop diversification activities undertaken by the smallholder farmers in the Ekumfi Nanabin community. As a result, smallholder farmers fallow their farmland for much shorter durations than is technically optimal for their crop diversification activities. The research participants revealed that tenure insecurity following the heightened demand for land has greatly affected the crop harvests of smallholder farmers in the Ekumfi Nanabin community due to repeated use of farmland. Due to financial constraints most aged smallholder farmers could not secure large tracts to sustain their crop diversification activities through bush fallowing and crop rotation practices. The research participants remarked that the reduced landholding

following the increasing demand for land and the repeated land utilisation employed by the aged smallholder farmers resulted in poor harvests and declined proceeds from crop diversification activities. This issue was confirmed by the district Agric officer:

The poor crop yield recorded in the district over the years is attributable keenly to infertile soil resulting from repeated use of cultivated land. As landholding keeps reducing following the recent hike in the demand for land by pineapple producer groups, smallholder farmers fallow their farmland for shorter periods than is technically required for crop growth. (District Agriculture Officer 1, Eyisam, 24th April 2023)

Research participants indicated that the tenure insecurity associated with the customary tenure system has disrupted their crop diversification activities. Some family lands were characterised by weak land rights and farmers who inherited or assigned those lands had their land allocated to pineapple producer groups (companies) under longer tenure duration. Two out of the fifteen research participants reported that insecure tenure arrangements have resulted in the eviction and destruction of their farmland without adequate compensation. The district agricultural officer disclosed in an interview that the district has recorded some incidences of boundary disputes and encroachment of farmland by pineapple-producing entities following the establishment of the pineapple processing factory in the district. The district agriculture officer narrated that:

With the influx of other pineapple producer groups in the district, customary landholding groups are coaxed to release their land to private entities like pineapple producer groups and farmer cooperatives due to the immediate economic benefits that accompany such acquisition compared to that of smallholder farmers without considering the long-term implication on livelihoods of the inhabitants. This is where issues of farmland take over emanate from (District Agriculture Officer 1, Eyisam, 9th May 2023)

On the issues of farmland takeover and encroachment, male active-aged migrant smallholder farmers complained bitterly that:

The Ekumfi Fruit and Juices Factory took over my farmland and destroyed my crops, when I reported the issue to the chief, I was told the land had been leased to the factory for pineapple cultivation, and that all farmers whose crops were destroyed would be compensated by the company. Upon several follow-up, nothing of that sort was given to us by the company or the chief. Due to this, I have vowed not to access land from the chief again as long as I stay in the Nanabin community. The issue of farmland takeover and encroachment has been very alarming in the Nanabin and surrounding community since the establishment of the pineapple processing factory in the district (Male Active aged Migrant Smallholder Farmer 7, Nanabin, 27th April 2023)

The commercialised pineapple cultivation in the Ekumfi district has caused a shift in the cultivation of other food crops such as cassava, maize, plantain and other vegetable crops in the Ekumfi district. According to the research participants following the establishment of the processing factory land use pattern has tilted more towards pineapple cultivation than other food and vegetable crops. The shift in agriculture land utilisation has threatened the tenure and food security of smallholder farmers who undertake other food crop diversification activities for their survival in the Ekumfi district. The revelation is at variance with the claims of the Department of International Development DFID (2002) that in rural settings secured access to land provides the foundation for investment in better livelihoods and improved living conditions of the inhabitant. However, for the aged smallholder pineapple farmer tenure insecurity has had a negative effect on yield and proceeds from their crop diversification activities.

Tenure Arrangements and Off-farm Livelihood Activities

Although tenurial arrangements matter more in the case of crop diversification activities. The aged women smallholder farmer who processes gari and konkonte reported that the volume and the sizes of cassava tubers they require for their gari and konkonte business have decreased. The participants attributed the shift in land use from the cultivation of essential food crops like cassava, to the boom in pineapple cultivation in the Ekumfi district. The heightened demand for land for pineapple cultivation and its attendant tenure forms affected the volumes of other farm produce transported to the urban centre for sale by the active aged women. Specifically, two of the four active-aged female smallholder farmers who

engaged in the sale of food crops as an alternative livelihood recounted a reduction in the volumes of crops transported to the urban centres for sale. The research participants attributed the reduction in the trading volumes to the sudden allocation of a larger proportion of land for pineapple cultivation to the neglect of other food crops as Captured in Table 13. An active-aged female smallholder farmer expressed her view on the issue this way:

Our trading volumes of other agricultural produce such as cassava, maize, plantain, garden eggs, and pepper have dropped drastically following the boom in pineapple cultivation in the district. The majority of farmers have now shifted towards pineapple cultivation because of the processing factory and ready market for pineapple (Active Aged Women Smallholder Pineapple Farmer 2, Nanabin, 26th April 2023)

Table 13: Tenure Arrangements and Off-farm Livelihood Activities Pursued by the Active Aged Female Smallholder Farmers

S/n	Non-farm Livelihood Activities	Influence of tenure Arrangements	Nature of Influence
1	Petty trading of farm produce	Reduced trading volumes	direct
2	Gari and Konkonte processing	Reduced volumes of cassava to be processed	direct

Source: Field Work (2023)

The aged active men who pursued firewood harvesting and charcoal trading as a complementary off-farm livelihood activity in the Nanabin community also recounted a drop in the supply of firewood and charcoal to their customers (fishmongers and restaurants). According to research participants, the fall in the

supply of both firewood and charcoal was attributed to the high uptake of land by companies for pineapple cultivation and not the normal seasonal trend witnessed in firewood trading. An observation revealed some parts of the Nanabin community showing signs of shrub vegetation making access to firewood even for domestic and commercial use a struggle for households. The aged men who were into herbal medicine as an alternative livelihood complained about the difficulties of getting some herbs for treatment due to the rampant clearing and ploughing of the vegetation in and around the surrounding communities. The aged active men who possessed technical skills in artisanal work such as masonry, and carpentry also recounted a fall in the demand for their service as proceeds from on-farm activities fell. A summary of the nature of the influence of tenure arrangement on off-farm activities undertaken by aged active male smallholder farmers is shown in Table 14.

Table 14: Tenure Arrangements and Off-farm Livelihood Activities Pursued by the Active Aged Male Smallholder Farmers

S/n	Non-farm Livelihood Activities	Influence of tenure Arrangements	Nature of Influence
1	Firewood Harvesting	Fall in production due to shrub vegetation	Direct
2	Charcoal Making	Fall in production due to shrub vegetation	Direct
3	Herbal Medicine	Loss/difficulties in getting certain herbs	Direct
4	Artisanal works	Fall in demand for their service due to a fall in farmers' income	Indirect

Source: Field Work (2023)

Tenure Arrangements and Other Income Diversification Activities

Research participants revealed no direct impact of tenurial arrangements on livestock diversification activities. However, the aged smallholder who owned

livestock recounted that the low proceeds from their crop diversification livelihood activities hindered their ability to expand their livestock diversification activities. Research Participants disclosed that rural wage employment was on the rise following the increasing demand for pineapple cultivation in the Ekumfi district. The pineapple producer groups needed some aged smallholder farmers who have in-depth knowledge of pineapple cultivation to work with on a daily wage basis. According to research participants, the Ekumfi Fruit and Juices Factory offered wage employment to some active-aged female smallholder farmers in the preparation of harvested pineapple crowns for subsequent nursery and planting, while some active-aged male smallholder farmers were engaged as field supervisors during peak planting and harvesting seasons. The research participants disclosed that the offer of wage employment following the increasing demand for land in the Ekumfi Nanabin enabled them to earn some income to sustain themselves.

The retired aged smallholder farmers who had acquired some assets like tricycles, and buildings witnessed a rise in their income because their services were in high demand in the district. Other retired aged smallholder farmers who had portions of their family land leased them out to farmer cooperatives and individual farmers to earn some income following the increasing demand for land for pineapple cultivation in the Ekumfi district. The retired aged smallholder farmers claimed the earnings from leasing their portion of family land enabled them to make a living when they disengaged from active farming (Table 15).

Table 15: Tenure Arrangements and Other Income Diversification Activities

S/n	Other income Diversification Activities	Influence of tenure Arrangements	Nature of Influence
1	Livestock	Slow expansion due to low proceeds from on-farm activities	Indirect
2	Rural wage Employment	Wage income increased	Direct
3	Rental Income	Rental incomes increased	Direct

Source: Field Work (2023)

Empirical data gathered on the influence of tenurial arrangements on the livelihood choices of the aged smallholder farmers indicate that following the heightened demand for land, aged smallholder pineapple farmers are not able to fallow their farmland for soil nutrients needed for crop growth due to tenure insecurity associated with some family land in the district. As the landholdings kept shrinking the only feasible strategy that guaranteed secured access to farmland among smallholder farmers was continuous farming which had a negative influence on their yield. Some aged smallholder farmers who accessed their farmland through the indirect mode have witnessed the destruction of farms, farmland taken over and encroachment by large-scale pineapple producer groups without compensation.

The increasing demand for land in the Ekumfi district has caused a trade-off in the use of land for food and vegetable crop diversification activities to the cultivation of pineapple due to the ready market for pineapple fruits both locally and internationally. The allocation of more land to pineapple cultivation has affected farm produce and trading volumes of other food and vegetable crops which were largely cultivated hence the tendency of threatened food security in the district. The issues of tenure arrangements are more connected to on-farm activities

than other non-agricultural activities. However, since rural livelihood activities are not pursued in isolation, the poor crop yield and low proceeds from on-farm livelihood activities had a dual (positive and negative) influence on specific non-farm livelihood activities and other income-generating activities undertaken by smallholder farmers in the district. The claims of Ellis (2002) that in rural settings on-farm activities are executed hand in hand with off-farm and other income-generating activities to attain the desired livelihood goals appears to be upheld by the research participants. Due to the integrative nature of rural livelihood pursuit what impacted on-farm activities directly or indirectly affected the off-farm activities of aged smallholder farmers in the Nanabin community.

Chapter Summary

The chapter presented findings on how the aged smallholder negotiate their livelihood choices amid the changing tenure forms and reduced landholdings accompanying commercial agriculture and how these choices have enabled or inhibited the realisation of their livelihood goals. The finding on tenure arrangements regarding the use of land for commercial agriculture purposes reveals that lands in the Ekumfi district come under both private and customary ownership. The private land belongs to the pineapple producer groups in the district while the customary land comes under the stool and family ownership. The allocation of the customary land was entrusted in the hands of the family and clan heads (Ebusuapayin) or chiefs (Manhen) respectively. The mode of accessing land for pineapple cultivation in the Ekumfi district was through direct access or indirect

access. The direct mode of access was prevalent among the aged smallholders who were members of either stool or clan land-holding groups.

The indirect access lease was more predominant among non-affiliate landholding groups and migrant farmers and in the Nanabin community. The modes of accessing land had a strong nexus with the farmer's membership to a landholding or stool-owning group. The lease amount stood at 400GHC-600GHC per acre of land for non-members of landholding and migrant farmers. However, some land-holding groups halved the lease amount for members, and others required their members to support family development projects instead. The mode of payment for private entities extends beyond the payment of the lease amount and includes other social and material commitments. The mode of accessing land conferred different rights for both aged smallholders who are members and non-members of the landholding family as well as the private entities (pineapple producer groups).

Amid the changing tenure forms coupled with the absence of an institutionalised social safety net to address the diverse social problems of the aged smallholder pineapple farmers. The aged smallholder farmers in the Ekumfi Nanabin avert old age vulnerabilities through pineapple cultivation, crop and animal rearing diversification and other income-generating activities they pursue. The aged smallholder pineapple farmers have also diversified their livelihoods to include non-farm activities to sustain themselves and their households. The aged smallholder farmers relied on cash and non-cash remittances from their children and close relatives. The aged smallholder farmers have refuted the claims of the

disengagement theory as they are actively engaged in both on and off-farm livelihood and other income-generating activities to survive.

The perpetual engagement of the aged smallholder pineapple farmers in agrarian and alternative livelihood activities was inspired by several livelihood goals including the desire to attain income and food security, accumulate assets, build a better future for children and grandchildren and attain a higher social status in their livelihood construction activities. The attainment of these goals was reported as the sole driver that directed the livelihood construction activities of the aged smallholder pineapple farmers in the Ekumfi district. The aged smallholder pineapple farmers have not been able to realise all their goals due to deteriorating health and physical strength, climate change and the absence of support services like credit markets to enhance their agrarian livelihood activities.

According to Atuoye et al (2021), secure access to land provides the grounds for better livelihood construction activity and enhanced living conditions for the rural poor. This tells the crucial role land plays in the lives of the rural vulnerable. However, the tenure arrangements following the heightened demand for land in the Ekumfi district have reduced the previous landholdings and brought about uncertainties in land fallowing among the smallholder farmers. Some aged smallholder farmers who secured their land indirectly (lease agreement) resorted to tenure renegotiation and continuous farming as the only feasible way to protect their farmland from possible takeover. In effect aged, smallholder pineapple farmers follow their farmland for a shorter duration than is technically required

resulting in low yield and economic benefits that flow from their crop diversification activities.

Due to the integrative nature of rural livelihood, the tenure arrangements' influence on the crop diversification of the rural aged had both positive and negative impacts on certain non-agricultural livelihood activities undertaken by the aged smallholder farmers in the Nanabin community. The trading volumes of food crops such as maize, cassava, plantain and vegetables marketed by the aged female smallholder farmers have reduced following the allocation of more land for pineapple cultivation. The aged male smallholder who pursued firewood harvesting, charcoal making, and herbal medicine as alternative livelihood activity also lamented about a fall in their production due to the shrub vegetation and loss of certain medicinal herbs due to the increasing uptake of land in the district. Other income-generating activities such as rural wage employment and rental income improved following the increasing demand for land in the district. The succeeding chapter presents the summary, conclusion, and recommendation and suggests further studies based on the limitations of the study findings.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter summarised the main findings on how tenure forms accompanying commercial agriculture influence the livelihood choices of the aged smallholder pineapple farmers in the Ekumfi district, Ghana. This chapter concludes the study with a summary of the research process and the key findings that emerged for each objective. The chapter provides the key findings and offers recommendations that could be considered in improving the livelihood condition of the aged smallholder farmers in rural settings. The chapter ends with suggestions for further research.

Summary of Research Process

The first chapter of this study presented the background and problem statement. The study argued that in the face of a dysfunctional state support system coupled with the absence of an institutionalised social safety net to address the diverse social problems of the aged. The aged smallholder pineapple farmers negotiate their livelihood choices amid changing tenure forms and reduced landholdings accompanying commercial agricultural investment remain unexplored. The study offered the theoretical stance that buttresses why the rural aged continuously engage in livelihood construction activities. Premised on the review of relevant literature and the identified research gaps, the study explored

how tenure forms accompanying commercial agriculture influence the livelihood choices of the aged smallholder pineapple farmers in the Ekumfi district, Ghana.

In addressing the overall purpose of the study, the ensuing research objectives were pursued; outlining the tenurial arrangements regarding the use of land for commercial agriculture. The study described the livelihood activities undertaken by the aged smallholder pineapple farmers. The study further discussed the livelihood goals of the aged smallholder pineapple farmers. Finally, the influence of the tenurial arrangements on the livelihood choices of aged smallholder farmers was analysed.

A qualitative research approach was used to conduct the study with the aid of interviews and non-participant observation to gather empirical data from participants to address the study objective. Maximum variation and expert sampling were used to select a total of 27 participants comprising 15 aged smallholder farmers and 12 key persons. Chain referral sampling (snowballing) was then employed to help trace study participants from each sampled frame. The gathered data was transcribed and organised manually into four major themes: namely, tenurial arrangements, livelihood activities of the aged, livelihood goals of the aged, tenurial arrangements and livelihood choices.

Summary of Key Findings

The results on the socio-demographic characteristics of the fifteen aged smallholder pineapple farmers revealed that five had retired from pineapple cultivation while the remaining ten were actively engaged in pineapple cultivation. Six (6) of the fifteen (15) participants were female while the nine were male. The

age profile of the aged smallholder pineapple farmers ranged from 60-82 years for both sexes. This is because the study sought to engage farmers who are 60 years and above, all farmers below this age category were excluded. The aged smallholder pineapple farmers had large families and enjoyed both economic and social benefits associated with large family sizes. All the participants were engaged in informal work (petty trading, artisan, farming) before venturing into pineapple cultivation. The majority of the aged smallholder pineapple farmers who participated in the study stayed in the Ekumfi Nanabin community because of marital reasons and the desire to maintain their rural identity and enjoy traditional social support systems. Each of the fifteen sampled aged smallholder pineapple farmers owned at least two or more acres of pineapple farm.

The first objective of the study sought to outline the tenurial arrangements regarding the use of land for commercial agriculture in the Ekumfi district. It emerged that lands in the Ekumfi district come under private ownership (pineapple producer entities) and customary ownership. Private land was owned by the pineapple producer groups, while the customary land came under the ambit of stool and family ownership. For the customary land respective family heads and principal elders had dispositional rights in the allocation of land for various purposes in the Nanabin community. The customary land ownership structure in the Ekumfi district had about four-fifths of the available land under family ownership and one-fifth under stool ownership.

Access to land for pineapple cultivation in the Ekumfi district was executed around some customary agreed tenets such as lease agreement and direct access.

These modes of land acquisition enabled the transfer of cultivable land from the landholding groups to aged smallholder farmers and other private entities (pineapple producer groups) for pineapple cultivation and other crop diversification activities in the Ekumfi district. The lease agreement was more predominant among aged smallholder farmers who are non-members of landholding groups and other pineapple-producing entities, while direct access was the more prevalent mode of access among the members of landholding groups.

The modes of acquiring land among the aged smallholder farmers had a strong relationship with their membership to a land-holding or stool-owning group in the Ekumfi district. The allocation to smallholder farmers was concluded verbally and authenticated with witnesses from both land-holding groups and the land seeker without proper documentation or legal cover. However, access by private entities such as pineapple producer groups, and farmer cooperatives was executed jointly by both the informal and formal institutions. The traditional authorities within the land-holding families collaborated with formal institutions such as the Land Commission and, the Office of the Administrator of Stool Land to facilitate the allocation of land to pineapple producer groups in the Ekumfi district.

The mode of accessing land in the Ekumfi Nanabin conferred different rights for both aged smallholders who are members and non-members of the landholding family as well as the private entities (pineapple producer groups). The aged smallholder farmers who are not members of land-holding groups, migrant farmers and other pineapple producer groups enjoyed limited rights to use the leased land

but had no right to transfer the said interest either through inheritance, gifting or selling their close relations or heir beyond the tenure duration agreed upon. The right to use the leased land was limited to the tenure duration and the type of crop to cultivate. The aged smallholder pineapple farmers who accessed their farmland directly through their matrilineal lineage had the right to use and determine who could use the land but enjoyed limited transfer rights. The male-aged smallholder farmers unlike their female counterparts had limited rights when it comes to transferring the land and the kind of crops to cultivate. The tenure rights accompanying direct access vary on the sex of the farmer in the land-holding group.

The aged smallholder pineapple farmers who accessed their farmland through direct access made no prior monetary commitment. However, they were occasionally levied to support family developmental projects like funerals, stool cleansing, and renovation of family houses among others. Those who accessed their farmland indirectly were required to pay an amount ranging from 400GHC-600GHC per acre for two years depending on the location of the land. The stool-owning group made it obligatory for the aged smallholder pineapple farmers to make social and material commitments for the indirectly accessed land. Such social and material commitment was not obligatory for those who accessed their farmland from some landholding groups. For instance, the Ekumfi Fruits and Juices factory is required to offer educational scholarships, employ some members of the landholding group, and support the community during festive seasons.

The second objective of the study was to describe the livelihood activities undertaken by the aged smallholder pineapple farmers. It came to light that

agriculture is the major livelihood activity undertaken by the aged smallholder pineapple farmers in the Ekumfi district. The aged smallholder farmers have also complemented their primary livelihood activities with other non-farm diversification activities in their quest to attain their desired livelihood goals. The aged smallholder pineapple farmers also enjoyed other social capital such as cash and non-cash remittances from children and close relatives. In the absence of an institutionalised social safety net, agriculture livelihood, income diversification and remittances have been the dominant livelihood choices that have sustained the aged smallholder farmers in the Ekumfi Nanabin community.

The third objective concerned the livelihood goals of the aged smallholder pineapple farmers. The results show that the aged smallholder pineapple farmers are inspired by several livelihood goals. The desired livelihood goals of the aged smallholder farmers include attaining income and food security, accumulating assets, building a better future for children and grandchildren and attaining a good social status. The aged smallholder pineapple farmers in Ekumfi district have not relented in their quest to realise their livelihood goals from the numerous activities they pursue. In decreasing order of importance, the aged smallholder farmers mentioned food and income security, asset accumulation, a better future for children and grandchildren, and good social status as their most pressing livelihood goals. The aged smallholder pineapple farmers recounted that they have not been able to achieve fully the aforementioned livelihood goals due to associated impediments such as deteriorating health and physical strength, climate changes and the absence of credit markets in the Ekumfi district.

The final objective sought to analyse the influence of the tenurial arrangements on the livelihood choices of aged smallholder farmers. The study divulged that the tenure arrangements following the heightened demand for land in the Ekumfi district and Nanabin in particular have reduced the prevailing land holdings. The aged smallholder pineapple farmers are not able to fallow their farmland for optimal soil nutrients needed for crop growth due to tenure insecurity associated with some family land in the district. As the landholdings kept shrinking the only feasible strategy that guaranteed secured access to farmland among smallholder farmers was continuous farming which had a negative influence on their crop yields. Some aged smallholder farmers who accessed their farmland through the indirect mode complained about the destruction of their farms, farmland taking over and encroachment by large-scale pineapple producer groups without compensation.

The increasing demand for land for commercial agricultural purposes has caused a shift in the use of land for food and vegetable crop diversification activities to the cultivation of pineapple due to the ready market for pineapple fruits both locally and internationally. The devotion of vast land for pineapple cultivation has affected farm produce and trading volumes of food and vegetable crops previously cultivated in the district. The sudden shift in the allocation of land appears to threaten food security in the Ekumfi district. Although the issues of tenure arrangements are more akin to on-farm activities than non-farm activities. However, since rural livelihood activities are not pursued in isolation, the poor crop yield and low proceeds from on-farm livelihood activities had a dual (positive and

negative) influence on specific non-farm livelihood activities and other income-generating activities undertaken by smallholder farmers in the Ekumfi district.

The negative influence of the tenure arrangements on farm activities directly or indirectly affected the off-farm livelihood activities pursued by the aged smallholder farmers in the Nanabin community. The trading volumes of food crops such as maize, cassava, plantain and vegetables marketed by the aged female smallholder farmers have reduced following the allocation of more land for pineapple cultivation. The aged male smallholder who pursued firewood harvesting, charcoal making, and herbal medicine as alternative livelihood activity also lamented about a fall in their production due to the shrub vegetation and loss of certain medicinal herbs due to the increasing uptake of land in the district. Other income-generating activities such as rural wage employment and rental income have improved following the increasing demand for land in the Ekumfi district.

Conclusions

The series of arrangements regarding the use of land for commercial agriculture in the district occurred between the aged smallholder farmers, stool or landholding families and some pineapple producer groups in the Ekumfi district. This arrangement paved the way for aged smallholder farmers to access land directly or indirectly from the landholding groups and pineapple producer groups. The modes of accessing land among the aged smallholder farmers had a close relation with the membership to the landholding group as well as the accompanying rights. While direct access was a common means of access among affiliates of stool-owing or landholding families, indirect access was more predominant among

aged smallholder farmers who are non-affiliates of landholding groups and other pineapple-producing entities. The indirect modes of accessing land imposed some financial and material commitment on aged smallholder farmers who are non-affiliates of the land-holding group. However, aged smallholder farmers who access their land directly from their families made no prior monetary commitment to their respective families but were levied to support developmental projects that the family undertakes. The extra material commitments that accompanied indirect access tended to restrict land access among non-affiliates and migrant farmers and hence mar their livelihood choices in the face of the heightened demand for land in the district.

Pineapple cultivation and other crop diversification emerged as the major livelihood activity undertaken by the aged smallholder pineapple farmers in the Ekumfi district. The aged smallholder pineapple farmers have complemented their primary livelihood (agriculture) activities with alternative livelihood (non-agricultural) activities to gain more income to sustain themselves. Aside from on-farm and non-agricultural livelihood diversification activities rental income, rural wage employment and remittances have been critical for the survival of the smallholder pineapple farmers in the Ekumfi Nanabin community. The aged smallholder farmers in Ekumfi Nanabin defied the position of the disengagement theory of ageing which advocates that the aged withdraw from all livelihood construction activities to make way for the young and able-bodied. The aged smallholder farmers in Ekumfi Nanabin rather adhered to the positions of the continuity theory which proposed that the elderly persons should perpetually

engage in different livelihood activities to avert old age poverty and realise their livelihood goals. The aged smallholder pineapple farmers despite their age still engage in varied economic activities as the only option to survive in the absence of an institutionalised social safety net.

The aged smallholder pineapple farmers in Ekumfi district are inspired by several goals such as attaining income and food security, accumulating assets, building a better future for children and grandchildren and attaining a good social status in their livelihood construction activities. In a decreasing order of importance attaining income security emerged as the most pressing livelihood goal followed by food security, accumulating assets, building a better future for children and grandchildren and attaining a good social status. The desire to realise these goals has been the major driving force in their livelihood construction activities. The aged smallholder pineapple farmers attributed their inability to fully realise these desired livelihoods to deteriorating health and physical strength, climate changes and the absence of credit markets in the Ekumfi district. However, aged smallholder pineapple farmers expressed optimism with the little strikes they have made regarding the attainment of their livelihood goals.

The tenure arrangement accompanying the increasing demand for cultivable land in the Ekumfi district has reduced the prevailing land holdings along with inherent uncertainties in the land fallowing among the smallholder farmers in the Ekumfi district. This has compelled the aged smallholder pineapple farmers to fallow their farmland for a shorter duration than is optimally required resulting in low yield and low proceeds from their crop diversification activities. There has been

a trade-off in the use of land for food and vegetable crop diversification activities to the cultivation of pineapple. The allocation of vast land for pineapple cultivation has affected farm produce and trading volumes of other food and vegetable crops which were previously cultivated in the Ekumfi district.

Tenurial arrangements are more related to on-farm livelihood activities. However rural livelihood pursuits are integrative and not isolative and that what affects farm livelihood affects non-farm. The study findings point to a fall in production in off-farm activities such as firewood harvesting, charcoal making, and herbal medicine due to the shrub vegetation resulting from the increasing uptake of land in the Ekumfi district. However, income-generating activities such as rural wage employment and rental income from assets such as houses, and tricycles among others have improved following the increasing demand for land in the district.

Recommendations

The ensuing recommendations were proposed and directed at the aged smallholder pineapple farmers, landholding groups and government and its agencies and based on the key findings of the study. These recommendations are geared towards attaining secured tenure arrangements that enhance the pursuit of aged livelihood choices and the realisation of their livelihood goals.

Government and NGOs like Help Age International should provide hands-on training and support to the aged smallholder farmers particularly those who are non-members of the land-holding group in their off-farm livelihood and other income-generating activities not only to transform their livelihoods but also to

improve their economic well-being in the face of derailed farm-based livelihood activities. State-owned banks and other private financial entities should be encouraged to advance collateral-free credit to the aged smallholder farmers to enable them to secure large tracts of land down to undertake their agrarian livelihood activities. The office of the Administrator of stool land and another legal practitioner should sensitise aged smallholder farmers particularly those who are not members of the landholding family on seeking legal and other alternative resolutions to their land right challenges.

The formalised land administrative institutions should caution landholding or owning groups to desist from the habit of being coaxed to release farmland that is under cultivation by aged smallholder farmers to large-scale pineapple groups. Because such practice from landholding groups deprives the smallholder farmers of their livelihoods and subject them to abject poverty. This issue can be resolved by strengthening the coordination between the customary and statutory land tenure institutions to ensure proper documentation and formalisation of tenure systems with adequate tenure security for agrarian livelihood activities. This will help forestall land disputes and ensure easy access to litigation-free land and flexible tenure conditions for pineapple cultivation. The paramount chief through the various heads and principal elders of landholding groups should make provision for land for food crops to mitigate the effects of food insecurity rear its head in the future.

Since government support for the aged in rural Ghana is dolefully inadequate, the study recommends a legal provision to allocate a portion of the

district assembly common fund to the rural aged smallholder farmers. Such assistance added to their efforts will ensure total cover against survival problems they face in the rural setting. Also, the national ageing policy that has been pending before parliament for years should be given urgent attention so that an institutional framework will be provided to accommodate the diverse needs of the aged. A comprehensive policy like the recent cocoa farmers' pension scheme should be streamlined to offer pension benefits to all informal rural agricultural workers instead of the uncoordinated and politicised social interventions like the LEAP which only offers meagre financial relief to some categories of people in the country.

Suggestion for Further Research

The present study has provided in-depth information on how the aged smallholder farmers in the Ekumfi district initiate their livelihood choices amid changing tenure arrangements and the absence of institutionalised social security. A national household survey with a mixed method approach could be used to explore how effective each of the livelihood choices is in the realisation of their livelihood goals. Finally, further studies could be devoted to identifying mitigation measures deployed by the aged smallholder farmers to overcome the negative impact of the tenure arrangement on their livelihood choices and goals.

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APPENDICES

UNIVERSITY OF CAPE COAST

SCHOOL FOR DEVELOPMENT STUDIES

COLLEGE OF HUMANITIES AND LEGAL STUDIES

DEPARTMENT OF INTEGRATED DEVELOPMENT STUDIES

APPENDIX-I: Interview Guide for Aged Smallholder Pineapple Farmers

Date of interview.....

Duration of interview.....

A. PERSONAL INFORMATION OF PARTICIPANTS

- a. Gender (through observation)
- b. Age
- c. Level of education
- d. Marital status
- e. Household composition
- f. Place of birth
- g. Length of stay in the Nanabin community
- h. Where lived previously
- i. Previous employment
- j. Why living in Nanabin community
- k. Residential status in the Nanabin Community
- l. Acres of land owned

B. TENURIAL ARRANGEMENTS REGARDING THE USE OF LAND FOR COMMERCIAL AGRICULTURE (PINEAPPLE CULTIVATION)

1. Who are the owners of the land in the Nanabin Community?
2. How do you access land for pineapple cultivation (Probe by assessing whether they are on purchase, lease, sharecropping, rent, or other means and which one is prevalent)?
3. What has been the history of land acquisition in Nanabin? (Explore the changing nature of the acquisitions, what accounts for the change, if **any**?)

(Probe for specific details)

4. Who are the key actors (tenure agents/ players) in the acquisitions and what use has the land been put to (land use patterns)? (Probe for specific details)
5. Any changes in the process for land acquisition for pineapple cultivation, compared with the past ten (10) years? Explain the changes

C. LIVELIHOOD ACTIVITIES UNDERTAKEN BY THE AGED SMALLHOLDER PINEAPPLE FARMERS

1. Besides pineapple cultivation which other activities do you engage in to make a living? (Probe for details of the activities)
2. Do you consider leaving the Nanabin community for another community? If **yes**, why would you want to leave the Nanabin community?
3. Do you have alternative income sources aside from the economic activities you engage in? Probe for specifics)

D. LIVELIHOOD GOALS OF THE AGED SMALLHOLDER PINEAPPLE FARMERS

1. What do you desire to achieve in life with the livelihood activities you do?
2. What desired goals have you achieved from the livelihood activities you undertake? (Probe for details on the kind of goals?)
3. What has hindered the attainment of all your desired livelihood goals?

E. INFLUENCE OF THE TENURIAL ARRANGEMENTS ON LIVELIHOOD CHOICES

1. How has the tenure arrangements influenced the kind of activities you do for a living? Is the influence positive or negative?
2. Are you compelled to undertake other activities, besides pineapple cultivation because of the current tenure arrangements? If **yes**, what activities are you compelled to undertake?
3. Is there any other comment would you want to give regarding the tenure forms and your livelihood choices?

APPENDIX II
OBSERVATIONAL GUIDE

1. Kinds of livelihood (on-far, off-farm and income generating) activities undertaken by aged smallholder farmers in the Nanabin Community.



APPENDIX III**INTERVIEW GUIDE****Leaders of Land Holding Groups****A. TENURIAL ARRANGEMENTS REGARDING THE USE OF LAND FOR COMMERCIAL AGRICULTURE (pineapple cultivation)**

1. How do people access land for pineapple cultivation (Probe by assessing whether they are on purchase, lease, sharecropping, rent, or other means and which one is prevalent)?
2. What has been the history of land acquisition in the Nanabin community? (Explore the changing nature of land acquisition. what accounts for the change, if **any**? (Explain the changes)
3. Who are the key actors (tenure agents/ players) in the acquisitions and what use has the land been put to (land use patterns)? (Probe for specific details)

B. INFLUENCE OF THE TENURIAL ARRANGEMENTS ON LIVELIHOOD CHOICES

1. How have the tenure arrangements influenced the kind of activities people do for a living? Is the influence positive or negative?
2. Are people compelled to undertake other activities, besides pineapple cultivation because of the current tenure arrangements? If **yes**, what activities are they compelled to do?
3. Will people leave the Nanabin community for another community because of the tenure arrangements? Why would they leave? Will relocating solve the problems they face with the tenure arrangements? If **yes**, how would it help?
4. Is there any other comment would you want to give regarding the tenure forms and livelihood choices of the aged?

APPENDIX IV**INTERVIEW GUIDE****Managers of Pineapple Producer Groups (Cooperatives/ Companies)****A. TENURIAL ARRANGEMENTS REGARDING THE USE OF LAND FOR COMMERCIAL AGRICULTURE (Pineapple Cultivation)**

1. How did the company access land for pineapple cultivation (Probe by assessing whether they are on purchase, lease, sharecropping, rent, or other means and which one is prevalent)?
2. How many acres of pineapple plantation does the company have?
4. What has been the history of land acquisition in the Ekumfi District? (Explore the changing nature of land acquisitions, what accounts for the changes, if **any**? (Explain the changes)
5. Who are the other tenure agents/ players in the land acquisition and what have been the land use patterns in the Ekumfi District? (Probe for specific details)
6. Does the company/corporation have any relationship with farmers in the Ekumfi District?
7. What are the recruitment conditions of the company/cooperation and are there any special arrangements for the aged?
8. Is there any comment you would want to make regarding land tenure arrangements and commercial agriculture in the Ekumfi District?

APPENDIX V

INTERVIEW GUIDE

District Agriculture Director/Officer

**B. TENURIAL ARRANGEMENTS REGARDING THE USE OF LAND
FOR COMMERCIAL AGRICULTURE (pineapple cultivation)**

1. Who are the owners of land in the Ekumfi District?
2. How do people access land for pineapple cultivation (Probe by assessing whether they are on purchase, lease, sharecropping, rent, or other means and which one is prevalent)?
9. What has been the history of land acquisition in the Ekumfi District? (Explore the changing nature of land acquisitions, what accounts for the change, if **any**? (Explain the changes)
3. Who are the key actors (tenure agents/players) in the land acquisition and what have been the land use patterns in the Ekumfi District?
4. Are there rules regarding land use patterns in the Ekumfi District?). Does the changing pattern have any implications for the aged in the Ekumfi District? Probe for specific details)
5. Have there been any problems associated with the acquisition of land for commercial agriculture purposes in the Ekumfi District?
6. Is there any comment you would want to make regarding land tenure arrangements and commercial agriculture in the Ekumfi District?

APPENDIX VI

ETHICAL CLEARANCE LETTER

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309

E-MAIL: irb@ucc.edu.gh

OUR REF: IRB/C3/Vol.1/0112

YOUR REF:

OMB NO: 0990-0279

IORG #: IORG0011497

13TH APRIL 2023

Mr Daniel Kwame Aidoo
Department of Integrated Development Studies
University of Cape Coast

Dear Mr Aidoo,

ETHICAL CLEARANCE – ID (UCCIRB/CHLS/2022/122)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your research on **Commercial Agriculture and Livelihood Choices of the Aged Smallholder Pineapple Farmers in the Ekumfi District, Ghana**. This approval is valid from **13th April 2023** to **12th April 2024**. You may apply for a renewal subject to the submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit a periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Kofi F. Amuquandoh'.

Kofi F. Amuquandoh
Ag. Administrator

ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST